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(54) Title: **CRYSTAL STRUCTURE OF BAFF, AND USE THEREOF IN DRUG DESIGN**

(57) Abstract: The present invention relates to crystallizable compositions and crystals of BAFF. In addition, this invention relates to the high resolution structure of a BAFF polypeptide as obtained by X-Ray crystallography. This invention also relates to a computer (machine) comprising a machine-readable data storage medium comprising a data storage material encoded with machine-readable data comprising the structure coordinates provided by this invention. This invention also relates to methods of using the structure coordinates of BAFF to solve the structure of similar or homologous molecules or molecular complexes and methods of determining the homology model of a similar or homologous molecule, such as APRIL. This invention also provides a computer capable of producing a three-dimensional representation of APRIL based on the homology model structure coordinates. This invention also relates to methods using the structure coordinates of BAFF to design chemical entities or compounds, including agonists or antagonists, with improved properties (such as increased or decreased binding affinity for (BAFF)). This invention also provides variants of BAFF. This invention also relates to compositions comprising said chemical entities, compounds, including agonists or antagonists of BAFF, or variants.

**CRYSTAL STRUCTURE OF BAFF,
AND USE THEREOF IN DRUG DESIGN**

This application claims benefit of United States provisional application number 60/317,524, filed
5 September 6, 2001, the disclosure of which is incorporated by reference herein.

TECHNICAL FIELD OF THE INVENTION

The present invention relates to crystallizable compositions and crystals of BAFF. In
10 addition, this invention relates to the high resolution structure of a BAFF polypeptide as obtained by X-ray crystallography. This invention also relates to a computer (machine) comprising a machine-readable data storage medium comprising a data storage material
15 encoded with machine-readable data comprising the structure coordinates provided by this invention. This invention also relates to methods of using the structure coordinates of BAFF to solve the structure of similar or homologous molecules or molecular complexes
20 and methods of determining the homology model of a similar or homologous molecule, such as APRIL. This invention also provides a computer capable of producing a three-dimensional representation of APRIL based on

the homology model structure coordinates. This invention also relates to methods using the structure coordinates of BAFF to design chemical entities or compounds, including agonists or antagonists of BAFF, that specifically bind BAFF, as well as to design variants of BAFF agonists or antagonists, with improved properties (such as increased or decreased binding affinity for BAFF). This invention also provides variants of BAFF. This invention also relates to compositions comprising said chemical entities, compounds, including agonists or antagonists of BAFF, or variants.

BACKGROUND OF THE INVENTION

BAFF (which stands for B-cell activating factor belonging to the tumor necrosis factor (TNF) family) is a recently identified member of the TNF family of ligands (Shu, H.B., et al., J Leukoc Biol, 65(5): p. 680-3 (1999); Moore, P.A., et al., Science, 285(5425): p. 260-3 (1999); Schneider, P., et al., J Exp Med, 189(11): p. 1747-56 (1999)). BAFF is also known by other names, such as BlyS, TALL-1, THANK and zTNF4.

BAFF is a type II membrane protein that is expressed in different cell types, including T-cells and dendritic cells. BAFF can also exist as a soluble form; and the soluble form can induce proliferation of peripheral blood lymphocytes, just like the full-length protein (Schneider, P., et al., J Exp Med, 189(11): p. 1747-56 (1999), the disclosure of which is incorporated by reference herein). The full-length BAFF is a trimeric molecule that includes a globular

extracellular TNF-homologous domain, an extracellular stalk, a short transmembrane segment and a small cytoplasmic domain. Soluble BAFF also forms trimers. Several studies indicate that BAFF is a key regulator of the peripheral B-cell population (Moore, P.A., et al., Science, 285(5425): p. 260-3 (1999); Schneider, P., et al., J Exp Med, 189(11): p. 1747-56 (1999); Batten, M., et al., J Exp Med, 192(10): p. 1453-66 (2000)). BAFF has also been shown to play an essential role in the normal development of B-cells (Schiemann et al., An Essential Role for BAFF in the Normal Development of B-cells Through a BCMA-Independent Pathway, Scienceexpress (Aug. 16, 2001), at <http://www.scienceexpress.org> and Schiemann et al., Science 2001 Sep. 14; 293(5537): 2111-2114; the disclosures of both are incorporated by reference herein).

BAFF acts by binding to receptors expressed on B-cells and inducing B-cell proliferation and survival. So far, three receptors of BAFF have been identified: B-cell maturation antigen ("BCMA") (Madry, C., et al., Int Immunol, 10(11): p. 1693-702 (1998); Thompson, J.S., et al., J Exp Med, 192(1): p. 129-35 (2000)), transmembrane activator and CAML interactor ("TACI") (Xia, X.Z., et al., J Exp Med, 192(1): p. 137-43 (2000); Yan, M., et al., Science, 290(5491): p. 523-7 (2000)) and BAFF receptor ("BAFF-R") (Thompson et al., BAFF-R, a Novel TNF Receptor That Specifically Interacts with BAFF, Scienceexpress (Aug. 16, 2001), at <http://www.scienceexpress.org>) and Thompson, J.S. et al., Science (2001 Sep. 14); 293 (5537): 2108-2111, the disclosures of both of which are incorporated by

reference herein). These receptors lack signal sequences and thus are classified as type III membrane proteins, a fact that is uncommon for TNF family receptors. Two of the receptors (BCMA and TACI) also
5 bind to APRIL (which stands for a proliferation-inducing ligand), another TNF family member that is closely related to BAFF both structurally and functionally (Hahne, M., et al., J Exp Med, 188(6): p. 1185-90 (1998); Xia, X.Z., et al., J Exp Med, 192(1):
10 p. 137-43 (2000); Gross, J.A., et al., Nature, 404(6781): p. 995-9 (2000); Wu, Y., et al., J Biol Chem, 275(45): p. 35478-85 (2000); Marsters, S.A., et al., Curr Biol, 10(13): p. 785-8 (2000)). It appears that BAFF signaling is primarily through BAFF-R
15 receptor (Thompson et al., BAFF-R, a Novel TNF Receptor That Specifically Interacts with BAFF, Scienceexpress (Aug. 16, 2001), at <http://www.sciencexpress.org> and Thompson, J.S. et al., Science (2001 Sep 14); 293 (5537): 2108-2111). The extracellular domain of BAFF
20 is involved in the interaction with one or more of the BAFF receptors. The extracellular domain of APRIL is involved in the interaction with one or more of the APRIL receptors.

The TNF family of ligands includes, among
25 others, TNF- α , lymphotoxin- α (LT- α), lymphotoxin- β (LT- β), CD40 ligand (CD40L), OX40 ligand (OX40L), Fas ligand, and Apo2L/TRAIL (Locksley, R.M., et al., Cell, 104(4): p. 487-501 (2001)). Crystal structures have been determined for the TNF-homologous domains of TNF- α
30 (Jones, E.Y., D.I. Stuart, and N.P. Walker, Nature, 338(6212): p. 225-8 (1989); Eck, M.J. and S.R. Sprang, J Biol Chem, 264(29): p. 17595-605 (1989)), LT- α (Eck,

M.J., et al., J Biol Chem, 267(4): p. 2119-22 (1992)),
CD40L (Karpusas, M., et al., Structure, 3(12): p. 1426
(1995) and Karpusas, M., et al., Structure, 3: p. 1031-
1039 (1995)) and Apo2L/TRAIL (Cha, S.S., et al.,
5 Immunity, 11(2): p. 253-61 (1999); Hymowitz, S.G., et
al., Biochemistry, 39(4): p. 633-40 (2000)). The
structures show that these domains adopt the jellyroll,
or β -sheet sandwich motif.

The TNF ligands induce a signal by binding to
10 the corresponding TNF family receptors expressed on the
surface of the target cell. Each receptor is an
elongated molecule that consists of tandem repeats,
termed cysteine-rich domains ("CRD"), due to the high
number of disulfide bridges contained in each repeat.
15 A more precise description of the modular structure of
the TNF family receptors suggests that the basic
building block is roughly half a CRD in terms of size,
and can exist in different types, types A, B, C, each
containing one or two disulfide bridges (Naismith, J.H.
20 and S.R. Sprang, Trends Biochem Sci, 23(2): p. 74-9
(1998)).

Crystal structures of LT- α and TRAIL
complexed with their receptors provided insights into
the common aspects of TNF family ligand-receptor
25 recognition (Banner, D.W., et al., Cell, 73(3): p. 431-
45 (1993); Hymowitz, S.G., et al., Mol Cell, 4(4): p.
563-71 (1999); Mongkolsapaya, J., et al., Nat Struct
Biol, 6(11): p. 1048-1053 (1999); Cha, S.S., et al.,
J Biol Chem, 275(40): p. 31171-7 (2000)). The
30 structures show that TNF ligands induce a signal by
forming a trimeric complex with the receptors.

The structural basis of the interaction of BAFF with its receptors is of special interest due to a very unusual characteristic: BCMA and BAFF-R are the only known TNF receptors that appear to contain only one CRD. In addition, sequence comparison indicates that BCMA, TACI and BAFF-R are rather distantly related to other members of the TNF receptor family (Madry, C., et al., Int Immunol, 10(11): p. 1693-702 (1998); Thompson et al., BAFF-R, a Novel TNF Receptor That Specifically Interacts with BAFF, Scienceexpress (Aug. 16, 2001), at <http://www.scienceexpress.org> and Thompson, J.S. et al., Science (2001 Sep 14); 293 (5537): 2108-2111). This suggests the presence of different folding motifs in the receptor extracellular domains and possibly new associated modes of binding.

Recent data indicate that BAFF and APRIL are key players in autoimmune disease, while APRIL is also implicated in cancer (Ware, C.F., J Exp Med, 192(11): p. F35-8 (2000); Yu, G., et al., Nat Immunol, 1(3): p. 252-6 (2000); Khare, S.D. and H. Hsu, Trends Immunol, 22(2): p. 61-63 (2001)) (mice over-expressing BAFF also display mature B-cell hyperplasia (Mackay, F., et al., J Exp Med, 190(11): p. 1697-710 (1999)). Transgenic mice that overexpressed BAFF exhibited increased numbers of peripheral B lymphocytes and developed an autoimmune condition similar to systemic lupus erythematosus ("SLE") (Mackay, F., et al., J Exp Med, 190(11): p. 1697-710 (1999)). Moreover, the amount of BAFF in the serum of SLE patients is found to be elevated compared to healthy individuals (Zhang, J., et al., J Immunol, 166(1): p. 6-10 (2001)). These results indicate the involvement of BAFF in antibody-mediated

autoimmune diseases. BAFF, therefore, is an attractive candidate target for diagnosis and treatment of autoimmune diseases, and possibly other immune system disorders. Indeed, when transgenic mice that
5 overexpressed BAFF were treated with a soluble receptor of BAFF, B-cell population and severity of SLE-like disease were significantly reduced (Gross, J.A., et al., Nature, 404(6781): p. 995-9 (2000)). In addition, expression of APRIL is upregulated in many tumors and a
10 soluble form of BCMA was found to inhibit tumor growth (Rennert, P., et al., J Exp Med, 192(11): p. 1677-84 (2000)).

Agents that bind to BAFF and interrupt its interaction with one or more of its receptors can be
15 used to treat autoimmune diseases and other immune or non-immune disorders associated with inappropriate or abnormal BAFF expression. There is currently a need for agents that can serve as agonists or antagonists of BAFF. Further development of novel agents to serve as
20 human therapeutic agents, which are effective in interrupting BAFF and its interaction with one or more receptors of BAFF, is hampered by the lack of structural information of BAFF. That information is provided for the first time by the present invention.

25 SUMMARY OF THE INVENTION

Applicants have solved the above-identified problem by providing compositions, which can be crystallizable, and crystals of BAFF and methods for
using such compositions and crystals.

30 This invention also provides the structure coordinates of BAFF.

This invention also provides methods for determining at least a portion of the three-dimensional structures of molecules or molecular complexes which contain at least some structurally similar features to BAFF. This invention also provides methods for determining at least a portion of the homology model structure of molecules or molecular complexes which contain at least some structurally similar features to BAFF. In a preferred embodiment, this invention provides methods for determining a homology model of APRIL. This invention also provides homology model coordinates of APRIL.

This invention also provides methods for designing chemical entities, compounds, such as agonists and antagonists of BAFF, and variants of agonists or antagonists of BAFF. This invention further relates to compositions comprising the chemical entities, the compounds, such as agonists and antagonists of BAFF, and variants of agonists or antagonists of BAFF, wherein such chemical entities, compounds, including agonists or antagonists of BAFF, and variants are rationally designed by means of the structure coordinates of BAFF, or portions thereof. The invention further relates to use of the above-identified chemical entities, compounds, such as agonists and antagonists of BAFF, and variants of an agonist or antagonist of BAFF, to treat conditions associated with inappropriate or abnormal BAFF activation or inactivation in a subject.

This invention also provides a computer, which comprises a storage medium comprising a data storage material, for producing three-dimensional

representations of molecules or molecular complexes of BAFF and methods for using these three-dimensional representations to design: 1) chemical entities and compounds that associate with BAFF, 2) compounds, such as potential agonists or antagonists of BAFF, and 3) variants of an agonist or antagonist of BAFF, by using computational means to perform a fitting operation between chemical entities, compounds, such as agonists and antagonists of BAFF, and variants of an agonist or antagonist of BAFF and the molecules or molecular complexes of this invention. This invention also provides the chemical entities, the compounds, such as agonists and antagonists of BAFF, and variants of an agonist or antagonist of BAFF, and compositions comprising the chemical entities, the compounds and the variants.

This invention also provides methods for designing variants of BAFF. In a preferred embodiment, the variants of BAFF designed by these methods bind to a subset of the receptors that bind to BAFF. In another preferred embodiment, the variants of BAFF bind one or more receptors of BAFF with higher or lower affinity than native BAFF. This invention also provides these BAFF variants.

The foregoing and other objects (such as methods of using a homology model of APRIL to design chemical entities, compounds, including agonists or antagonists of BAFF, and variants of agonists or antagonists of APRIL), features and advantages of the present invention, as well as the invention itself, will be more fully understood from the following description of preferred embodiments.

BRIEF DESCRIPTION OF THE DRAWINGS

The following abbreviations are used in Figures 8 and 10:

5 "Atom type" refers to the element whose coordinates are measured. The first letter in the column defines the element.

"Resid" refers to the amino acid residue identity. Amino acid residue numbers for BAFF or APRIL correspond to the numbering system in full-length human
10 BAFF (Figure 9a; SEQ ID NO: 1) or full-length APRIL (Figure 9c; SEQ ID NO:3), respectively.

"X, Y, Z" define the atomic position of the element measured.

"B" is a thermal factor that measures
15 movement of the atom around its atomic center.

"Occ" is an occupancy factor that refers to the fraction of the molecules in which each atom occupies the position specified by the coordinates. A value of "1" indicates that each atom has the same
20 conformation, i.e., the same position, in all molecules of the crystal.

"Mol" refers to the molecules in the asymmetric unit.

Figure 1 depicts a view of a representative region of
25 the final 2Fo-Fc electron density map contoured at 1.0 σ .

Figure 2a depicts a ribbon diagram of BAFF trimer. The front monomer has β -strands labeled while the back monomers are unlabelled in dark and light grey. The

figure was made with RIBBONS (Carson, *J. Appl. Cryst.*, 24, pp. 958-961 (1991)).

5 **Figure 2b** depicts a space filling model of BAFF trimer viewed along the 3-fold axis. The arrows point to the putative receptor binding sites. The figure was made with RIBBONS (Carson, *J. Appl. Cryst.*, 24, pp. 958-961 (1991)).

10 **Figure 3a** shows a sequence alignment of TNF family members based on structural superimpositions. The secondary structure assignment and numbering correspond to BAFF.

15 **Figure 3b** shows superimposed C α backbones of BAFF and TNF- α structures in stereo. BAFF is shown in dark grey and TNF- α in light grey. The β -strands of the structures superimpose well while the loops connecting the β -strands differ in the two structures.

20 **Figure 4** shows the solvent accessible surface of BAFF and APRIL trimers shaded according to electrostatic potential calculated with GRASP. Darker shaded areas represent positively charged regions or negatively charged regions. A schematic of the possible BAFF-R secondary structure is also shown. The arrows point to the putative location of the BAFF-R binding sites. In
25 the BAFF structure the putative BAFF-R binding site is negatively charged, and will therefore compliment the positively charged BAFF-R secondary structural element which is positively charged. But the putative BAFF-R binding site in the APRIL structure is positively

charged, and will thus repel the positively charged BAFF-R secondary structural element. The short vertical lines indicate the appropriate orientation of the BAFF and APRIL 3-fold axes.

- 5 **Figure 5** shows a diagram of a system used to carry out the instructions encoded by the storage medium of Figures 6 and 7.

Figure 6 shows a cross-section of a magnetic storage medium.

- 10 **Figure 7** shows a cross section of an optically-readable data storage medium.

- Figure 8** (8-1 to 8-104) lists the atomic structure coordinates for the extracellular domain of human BAFF, as derived by X-ray crystallography from crystals of that polypeptide in protein data bank (PDB) format.
- 15 Molecules A, B, C, K, L and M represent two BAFF trimers in the asymmetric unit.

- Figure 9a** shows the amino acid (aa) sequence of full-length human BAFF (SEQ ID NO: 1). The section of BAFF present in the construct crystallized is shown in bold.
- 20

Figure 9b shows myc-tagged human BAFF amino acids 136 to 285 fusion protein (SEQ ID NO: 2). The myc tag is in bold.

- Figure 9c** shows the amino acid (aa) sequence of human APRIL (SEQ ID NO: 3; Swiss-Prot entry 075888).
- 25 Bracketed residues correspond to residues 114 to 250.

Figure 10 (10-1 to 10-50) lists the homology model structure coordinates for the extracellular domain of

APRIL in protein data bank (PDB) format, as derived by homology modeling based on the X-ray diffraction from crystals of a BAFF polypeptide.

DETAILED DESCRIPTION OF THE INVENTION

The following discussion illustrates and exemplifies the variety of contexts and circumstances in which the invention can be practiced, as well as
5 providing specific embodiments of the invention.

Throughout this specification and claims, the word "comprise," or variations such as "comprises" or "comprising," will be understood to imply the inclusion
10 of a stated integer or group of integers but not the exclusion of any other integer or group of integers.

In addition, amino acid residue numbers given throughout the specification and claims for BAFF or APRIL correspond to the numbering system in full-length human BAFF (Figure 9a; SEQ ID NO: 1) or full-length
15 APRIL (Figure 9c; SEQ ID NO:3), respectively.

AMINO ACIDS ABBREVIATIONS

	A	=	Ala	=	Alanine
	V	=	Val	=	Valine
	L	=	Leu	=	Leucine
20	I	=	Ile	=	Isoleucine
	P	=	Pro	=	Proline
	F	=	Phe	=	Phenylalanine
	W	=	Trp	=	Tryptophan
	M	=	Met	=	Methionine
25	G	=	Gly	=	Glycine
	S	=	Ser	=	Serine
	T	=	Thr	=	Threonine
	C	=	Cys	=	Cysteine
	Y	=	Tyr	=	Tyrosine
30	N	=	Asn	=	Asparagine
	Q	=	Gln	=	Glutamine

15

D = Asp = Aspartic Acid
E = Glu = Glutamic Acid
K = Lys = Lysine
R = Arg = Arginine
5 H = His = Histidine

Compositions and Crystals

According to a preferred embodiment, the compositions of this invention are crystallizable. Those compositions comprise a BAFF polypeptide.

10 This invention also provides a crystal comprising a BAFF polypeptide.

The BAFF polypeptide is any BAFF polypeptide, preferably one that is capable of specifically binding to a receptor of BAFF. In a preferred embodiment, the
15 BAFF polypeptide comprises the extracellular domain, or a portion thereof, of BAFF. In another preferred embodiment, the BAFF polypeptide comprises a polypeptide consisting of human BAFF (Figure 9a; SEQ ID NO: 1) amino acid residues 136 to 285, which binds to a
20 BCMA-Fc fusion protein. In a preferred embodiment, the BAFF is human BAFF (Figures 9a and 9b; SEQ ID NO: 1; SEQ ID NO: 2). In another preferred embodiment, the crystallizable composition comprises a trimer of BAFF polypeptides.

25 A BAFF polypeptide could be a fusion protein comprising BAFF, or a portion thereof, and one or more other proteins. The fusion protein could comprise BAFF, or a portion thereof, and one or more epitope tags, such as a myc tag.

Crystal Structures and Methods Using the Structure
Coordinates That Define the Three-Dimensional Structure
of BAFF

The crystallizable compositions provided by
5 this invention are amenable to X-ray crystallography.
Therefore, this invention also encompasses crystals of
the crystallizable compositions. This invention also
provides the three-dimensional structure as obtained by
X-ray crystallography of a BAFF polypeptide at high
10 resolution, such as at 2.8Å resolution. See Example 1.
In a preferred embodiment, the BAFF polypeptide is the
extracellular domain of BAFF (for example, amino acids
136 to 285 of human BAFF (see Figure 9b; SEQ ID NO: 2;
or Figure 9b; SEQ ID NO: 1)). In a preferred
15 embodiment, the BAFF is human BAFF (see Figure 9a; SEQ
ID NO: 1). The BAFF polypeptide is preferably one that
can bind to at least one receptor of BAFF, i.e., the
BAFF polypeptide comprises a binding site for at least
one receptor of BAFF.

20 In a preferred embodiment, the BAFF or the
APRIL described herein is human BAFF or human APRIL.

The three-dimensional structures of other
crystallizable compositions of this invention may also
be determined by X-ray crystallography using X-ray
25 crystallographic techniques routine in the art.

X-ray crystallography is a collection of
techniques which allow the determination of the
structure of a molecular entity. The techniques
include crystallization of the entity, collection and
25 processing of X-ray diffraction intensities,
determination of phases (by, e.g., multiple isomorphous
replacement, molecular replacement or difference
Fourier techniques) and model building and refinement.

The three-dimensional structure of the extracellular domain of BAFF polypeptide is defined by a set of structure coordinates as set forth in Figure 8. The term "structure coordinates" refers to Cartesian atomic coordinates derived from mathematical equations related to the patterns obtained on diffraction of a monochromatic beam of X-rays by the atoms (scattering centers) of an extracellular domain of a BAFF polypeptide in crystal form. The diffraction data are used to calculate an electron density map of the repeating unit of the crystal. The electron density maps are then used to establish the position of individual atoms of the extracellular domain of a BAFF polypeptide.

One embodiment of the present invention provides a molecule or a molecular complex defined by at least a portion or all of the structure coordinates of the BAFF polypeptide amino acids set forth in Figure 8, or a homologue of said molecule or said molecular complex, wherein said homologue has a root mean square deviation from the backbone atoms of said amino acids between 0.00Å and 1.50Å, preferably between 0.00Å and 1.00Å, more preferably between 0.00Å and 0.50Å.

Another embodiment of the present invention provides a molecule or a molecular complex comprising a first binding site defined by structure coordinates of at least one or a plurality of BAFF amino acids selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172 according to Figure

8; or a homologue of said molecule or molecular complex, wherein said homologue comprises a second binding site that has a root mean square deviation from the backbone atoms of said at least one or a plurality of BAFF amino acids between 0.00Å and 1.50Å, preferably between 0.00Å and 1.00Å, more preferably between 0.00Å and 0.50Å. The first or second binding site is preferably a binding site of BAFF for one or more receptors of BAFF.

10 Preferably, a certain embodiment of the present invention provides a molecule or a molecular complex comprising a first binding site defined by structure coordinates of at least four BAFF amino acids selected from the group consisting of His218, Val219, 15 Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172 according to Figure 8; or a homologue of said molecule or molecular 20 complex, wherein said homologue comprises a second binding site that has a root mean square deviation from the backbone atoms of said at least four BAFF amino acids between 0.00Å and 1.50Å, preferably between 0.00Å and 1.00Å, more preferably between 0.00Å and 0.50Å. 25 The first or second binding site is preferably a binding site of BAFF for one or more receptors of BAFF.

Those of skill in the art will understand that a set of structure coordinates for a polypeptide is a relative set of points that define a shape in 30 three dimensions. Thus, it is possible that an entirely different set of coordinates could define a similar or identical shape. Moreover, slight

variations in the individual coordinates will have little effect on overall shape.

The variations in coordinates discussed above may be generated due to mathematical manipulations of the structure coordinates. For example, the structure coordinates set forth in Figure 8 could be manipulated by crystallographic permutations of the structure coordinates, fractionalization of the structure coordinates, integer additions or subtractions to sets of the structure coordinates, inversion of the structure coordinates, or any combination thereof.

Alternatively, modification in the crystal structure due to mutations, additions, substitutions, and/or deletions of amino acids, or other changes in any of the components that make up the crystal, could also account for variations in structure coordinates. If such variations are within an acceptable standard error as compared to the original coordinates, the resulting three-dimensional shape is considered to be the same as that of the unmodified crystal.

Various computational analyses are therefore necessary to determine whether a molecule or molecular complex, or a portion thereof, is sufficiently similar to all or parts of the extracellular domain of BAFF polypeptide structure described herein as to be considered the same. Such analyses may be carried out in current software applications, such as the Molecular Similarity application of QUANTA (Molecular Simulations Inc., San Diego, CA) version 4.1, and as described in its accompanying User's Guide.

The Molecular Similarity application permits comparisons between different structures, different

conformations of the same structure, and different parts of the same structure. The procedure used in Molecular Similarity to compare structures is divided into four steps: 1) load the structures to be compared; 2) define the atom equivalences in these structures; 3) perform a fitting operation; and 4) analyze the results.

Each structure is identified by a name. One structure is identified as the target (i.e., the fixed structure); all remaining structures are working structures (i.e., moving structures). Since atom equivalency within QUANTA is defined by user input, for the purpose of this invention, equivalent atoms such as protein backbone atoms (N, C α , C and O) will be defined for all conserved residues between the two structures being compared. Also, only rigid fitting operations will be considered.

When a rigid fitting method is used, the working structure is translated and rotated to obtain an optimum fit with the target structure. The fitting operation uses an algorithm that computes the optimum translation and rotation to be applied to the moving structure, such that the root mean square difference of the fit over the specified pairs of equivalent atom is an absolute minimum. This number, given in angstroms, is reported by QUANTA.

For the purpose of this invention, any molecule or molecular complex that has a root mean square deviation of conserved residue backbone atoms (N, C α , C, O) between 0.00Å and 1.50Å, preferably between 0.00Å and 1.00Å, more preferably between 0.00Å and 0.50Å, when superimposed on the relevant backbone

atoms described by structure coordinates listed in Figure 8 are considered identical.

The terms "root mean square deviation", "r. m. s. deviation" or "r. m. s. positional deviation" mean the square root of the arithmetic mean of the squares of the deviations from the mean. It is a way to express the deviation or variation from a trend or object. For purposes of this invention, the "root mean square deviation" defines the variation in the backbone of a protein from the relevant portion of the backbone of the BAFF polypeptide as defined by the structure coordinates described herein.

Once the structure coordinates of a protein crystal have been determined, they are useful in solving the structures of other crystals.

In accordance with the present invention, the structure coordinates of a molecule or molecular complex comprising the extracellular domain of BAFF polypeptide is stored in a machine-readable storage medium. A machine could be a computer. Such data may be used for a variety of purposes, such as drug discovery, and X-ray crystallographic analysis of other protein crystals.

In order to use the structure coordinates generated for the BAFF molecule or molecular complex or one of its binding sites or homologues thereof, it is necessary to convert them into a three-dimensional shape. This is achieved through the use of commercially available software that is capable of generating a three-dimensional graphical representation of molecule or molecular complexes, or portions thereof, from a set of structure coordinates.

Commercially available graphical software programs including, but not limited to, O (Jones et al., Acta Cryst. A47: p. 110-9 (1991)) and INSIGHTII (© Accelrys, Inc. and Molecular Simulations, Inc., San Diego, CA)

5 are capable of generating three-dimensional representations of molecules or molecular complexes, or portions thereof, from a set of structure coordinates.

Accordingly, one embodiment of this invention provides a machine-readable data storage medium

10 comprising a data storage material encoded with machine-readable data comprising a portion of or the entire set of the structure coordinates set forth in Figure 8. A machine could be a computer. A computer which comprises the data storage medium is also

15 provided by this invention. This invention also provides the computer with instructions to produce three-dimensional representations of the molecules or molecular complexes of BAFF by processing the machine-readable data of this invention. The computer of this

20 invention further comprises a display for displaying the structure coordinates of this invention.

This invention also provides a computer for determining at least a portion, or all, of the structure coordinates corresponding to X-ray

25 diffraction data obtained from a molecule or a molecular complex of BAFF, wherein said computer comprises:

a) a machine-readable data storage medium comprising a data storage material encoded with

30 machine-readable data, wherein said data comprises at least a portion, or all, of the structure coordinates of BAFF polypeptide according to Figure 8;

b) a machine-readable data storage medium comprising a data storage material encoded with machine-readable data, wherein said data comprises X-ray diffraction data obtained from said molecule or
5 molecular complex; and

c) instructions for performing a Fourier transform of the machine readable data of (a) and for processing said machine readable data of (b) into structure coordinates.

10 The computer of this invention further comprises a display for displaying the structure coordinates of this invention.

This invention also provides a computer for determining at least a portion of the structure
15 coordinates corresponding to X-ray diffraction data of a molecule or a molecular complex whose structure is unknown, wherein said computer comprises:

a) a machine-readable data storage medium comprising a data storage material encoded with
20 machine-readable data, wherein said data comprises at least a portion, or all, of the structure coordinates according to Figure 8;

b) a machine-readable data storage medium comprising a data storage material encoded with
25 machine-readable data, wherein said data comprises an X-ray diffraction pattern of said molecule or molecular complex;

c) a working memory for storing instructions for processing said machine-readable data of a) and b);

30 d) a central processing unit coupled to said working memory and to said machine-readable data of a) and b) for performing a Fourier transform of the

machine readable data of (a) and for processing said machine readable data of (b) into structure coordinates; and

e) preferably a display coupled to said
5 central processing unit for displaying said structure coordinates of said molecule of molecular complex. In one embodiment, the unknown structure is at least a portion of BAFF. In another embodiment, the unknown structure comprises an APRIL polypeptide. In a
10 preferred embodiment, the unknown structure comprises the extracellular domain of APRIL. In a more preferred embodiment, the unknown structure comprises a trimer of APRIL polypeptides.

This invention further provides a computer
15 for producing a three-dimensional representation of:

a) a molecule or a molecular complex defined by at least a portion or all of the structure coordinates of the BAFF amino acids set forth in Figure 8, or

20 b) a homologue of said molecule or molecular complex, wherein said homologue has a root mean square deviation from the backbone atoms of said amino acids of between 0.00Å than 1.50Å, preferably between 0.00Å and 1.00Å, more preferably between 0.00Å and 0.50Å; and
25 wherein said computer comprises:

(i) a machine-readable data storage medium comprising a data storage material encoded with machine-readable data, wherein said data comprises at least a portion or all of the structure coordinates of
30 all of the BAFF amino acids set forth in Figure 8; and

(ii) instructions for processing said machine-readable data into said three-dimensional representation.

This invention also provides a computer for producing a three-dimensional representation of:

a) a molecule or molecular complex comprising a first binding site defined by structure coordinates of at least one or a plurality of BAFF amino acids selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172 according to Figure 8; or

b) a homologue of said molecule or molecular complex, wherein said homologue comprises a second binding site that has a root mean square deviation from the backbone atoms of said at least one or a plurality of BAFF amino acids of between 0.00Å and 1.50Å, preferably between 0.00Å and 1.00Å, more preferably between 0.00Å and 0.50Å; wherein said computer comprises:

(i) a machine-readable data storage medium comprising a data storage material encoded with machine-readable data, wherein said data comprises the structure coordinates of at least one or a plurality of BAFF amino acids selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172 according to Figure 8; and

(ii) instructions for processing said machine-readable data into said three-dimensional representation.

This invention also provides a computer for
5 producing a three-dimensional representation of:

c) a molecule or molecular complex comprising a first binding site defined by structure coordinates of at least four BAFF amino acids selected from the group consisting of His218, Val219, Phe220,
10 Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172 according to Figure 8; or

d) a homologue of said molecule or molecular
15 complex, wherein said homologue comprises a second binding site that has a root mean square deviation from the backbone atoms of said at least four BAFF amino acids of between 0.00Å and 1.50Å, preferably between 0.00Å and 1.00Å, more preferably between 0.00Å and
20 0.50Å;

wherein said computer comprises:

(i) a machine-readable data storage medium comprising a data storage material encoded with machine-readable data, wherein said data comprises the
25 structure coordinates of at least four BAFF amino acids selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240,
30 Pro241, Asn242, Ser171 and Phe172 according to Figure 8; and

(ii) instructions for processing said machine-readable data into said three-dimensional representation.

Preferably, the computer of this invention
5 further comprises a display (which could be a computer screen) for displaying the structure coordinates of this invention. The first or the second binding site could be, inter alia, a binding site of BAFF for one or more receptors of BAFF.

10 Figure 5 demonstrates one version of these embodiments. System 10 includes a computer 11 comprising a central processing unit ("CPU") 20, a working memory 22 which may be, e.g., RAM (random-access memory) or "core" memory, mass storage memory 24
15 (such as one or more disk drives or CD-ROM or DVD-ROM drives), one or more cathode-ray tube ("CRT") display terminals 26, one or more keyboards 28, one or more input lines 30, and one or more output lines 40, all of which are interconnected by a conventional
20 bidirectional system bus 50.

Input hardware 36, coupled to computer 11 by input lines 30, may be implemented in a variety of ways. Machine-readable data of this invention may be inputted via the use of a modem or modems 32 connected
25 by a telephone line or dedicated data line 34. Alternatively or additionally, the input hardware 35 may comprise CD-ROM or DVD-ROM drives or disk drives 24. In conjunction with display terminal 26, keyboard 28 may also be used as an input device.

30 Output hardware 46, coupled to computer 11 by output lines 40, may similarly be implemented by conventional devices. By way of example, output

hardware 46 may include CRT display terminal 26 for displaying a graphical representation of a binding site of this invention using a program such as QUANTA as described herein. Output hardware might also include a printer 42, so that hard copy output may be produced, or a disk drive 24, to store system output for later use.

In operation, CPU 20 coordinates the use of the various input and output devices 36, 46, coordinates data accesses from mass storage 24 and accesses to and from working memory 22, and determines the sequence of data processing steps. A number of programs may be used to process the machine-readable data of this invention. Such programs are discussed in reference to the computational methods of drug discovery as described herein. Specific references to components of the hardware system 10 are included as appropriate throughout the following description of the data storage medium.

Figure 6 shows a cross-section of a magnetic data storage medium 100 which can be encoded with machine-readable data that can be carried out by a system such as system 10 of Figure 5. Medium 100 can be a conventional floppy diskette or hard disk, having a suitable substrate 101, which may be conventional, and a suitable coating 102, which may be conventional, on one or both sides, containing magnetic domains (not visible) whose polarity or orientation can be altered magnetically. Medium 100 may also have an opening (not shown) for receiving the spindle of a disk drive or other data storage device such as mass storage 24 of Figure 5.

The magnetic domains of coating 102 of medium 100 are polarized or oriented so as to encode in a manner which may be conventional, machine readable data such as that described herein, for execution by a
5 system such as system 10 of Figure 5.

Figure 7 shows a cross-section of an optically-readable data storage medium 110 which also can be encoded with such machine-readable data, or a set of instructions, which can be carried out by a
10 system such as system 10 of Figure 5. Medium 110 can be a conventional compact disk or DVD disk read only memory (CD-ROM or DVD-ROM) or a rewritable medium, such as a magneto-optical disk which is optically readable and magneto-optically writable. Medium 100 preferably
15 has a suitable substrate 111, which may be conventional, and a suitable coating 112, which may be conventional, usually of one side of substrate 111.

In the case of CD-ROM, as is well known, coating 112 is reflective and is impressed with a
20 plurality of pits 113 to encode the machine-readable data. The arrangement of pits is read by reflecting laser light off the surface of coating 112. A protective coating 114, which preferably is substantially transparent, is provided on top of
25 coating 112.

In the case of a magneto-optical disk, as is well known, coating 112 has no pits 113, but has a plurality of magnetic domains whose polarity or orientation can be changed magnetically when heated
30 above a certain temperature, as by a laser (not shown). The orientation of the domains can be read by measuring the polarization of laser light reflected from coating

112. The arrangement of the domains encodes the data as described above.

For the first time, the present invention permits the use of structure-based and rational drug design techniques to design, select, and synthesize chemical entities and compounds, such as agonists or antagonists of BAFF. Additionally, the present invention permits the use of structure-based or rational drug design techniques to make improvements of conventional BAFF agonists or antagonists, that are capable of binding to the extracellular domain of BAFF.

One particularly useful drug design technique enabled by this invention is iterative drug design. Iterative drug design is a method for optimizing associations between a protein and a compound (that compound includes an antibody) by determining and evaluating the three-dimensional structures of successive sets of protein/compound complexes.

Those of skill in the art will realize that association of natural receptors or substrates with the binding sites of their corresponding ligand (such as BAFF) or enzymes is the basis of many biological mechanisms of action. Similarly, many drugs (which include monoclonal antibodies) exert their biological effects through association with the binding sites of, for example, ligands (such as BAFF), receptors (such as one of the receptors of BAFF) and enzymes. Such associations may occur with all or any parts of the binding sites. An understanding of such associations will help lead to the design of drugs having more favorable associations with their target ligand (such as BAFF), receptor or enzyme, and thus, improved

biological effects. Therefore, this information is valuable in designing potential chemical entities or synthetic compounds that bind the ligands (such as BAFF), receptors or enzymes. Such synthetic compounds
5 could act as agonists or antagonists of the ligands (such as BAFF), receptors or enzymes.

The term "binding site", as used herein, refers to a region of a protein, that, as a result of its shape, favorably associates with, inter alia,
10 another protein, a chemical entity, a synthetic compound or an antibody, or an antigen binding fragment thereof. For example, BAFF has a binding site for each of its three known receptors, BCMA, TACI and BAFF-R.

This invention also provides a method of
15 determining a binding site of BAFF for one or more receptors of BAFF. In one embodiment, the binding site of BAFF for one or more of its receptors is determined based on the location of the binding site of known, homologous TNF family members for their receptors.
20 See, e.g., Example 1. In a preferred embodiment, the binding site of BAFF for one or more receptors of BAFF is determined by a method comprising the steps of:

- a) generating by biochemical means biochemical structure-function data, said data comprising
25 one or more amino acid residues of BAFF that when mutated results in a reduction in binding between BAFF and one or more of the receptors of BAFF (i.e., said data, for example, show that mutation of one or more
30 particular amino acid residues of BAFF results in reduction in binding between BAFF and one or more receptors of BAFF); and

b) using said data to define amino acid residues of the BAFF structure coordinates according to Figure 8 that interact with one or more receptors of BAFF.

5 In a more preferred embodiment, the binding site of BAFF for one or more of its receptors is determined by determining the co-crystal structure of BAFF, or a portion thereof that binds to a receptor of BAFF, and one of its receptors, or a portion of that receptor
10 that binds to BAFF. The binding site of BAFF for all of its receptors can be determined by determining the co-crystal structures of BAFF and each of its receptors.

In iterative drug design, crystals of a
15 series of protein complexed with a compound, chemical entity or another protein that binds the protein are obtained and then the three-dimensional structure of each molecule or molecular complex is solved. Such an approach provides insight into the association between
20 the proteins and compounds or chemical entities of each complex. This is accomplished by selecting proteins, compounds or chemical entities with agonistic or antagonistic activity, obtaining crystals of this new protein/protein, compound or chemical entity complex,
25 solving the three-dimensional structure of the complex, and comparing the associations between the new protein/protein, compound or chemical entity complex and previously solved protein/protein, compound or chemical entity complexes. By observing how changes in
30 the protein, compound or chemical entity affect the protein/protein, compound or chemical entity associations, these associations may be optimized.

In some cases, iterative drug design is carried out by forming successive protein/protein, protein/compound or protein/chemical entity complexes and then crystallizing each new complex.

- 5 Alternatively, a pre-formed protein crystal is soaked in the presence of another protein, a compound or a chemical entity, thereby forming a protein/protein, protein/compound or protein/chemical entity complexes complex and obviating the need to crystallize each
10 individual complex.

- The structure coordinates of BAFF set forth in Figure 8 can also be used to aid in obtaining structural information about another crystallized molecule or molecular complex. This may be achieved by
15 any of a number of well-known techniques, including molecular replacement. This method is especially useful for determining the structures of BAFF mutants and homologues, one homologue being APRIL.

- The structure coordinates set forth in
20 Figure 8 can also be used to generate homology models of proteins having 30% or higher homology thereto. A homology model of human APRIL, generated using the structure coordinates of BAFF shown in Figure 8, is detailed in Example 2.

- 25 Accordingly, this invention provides a method of utilizing the structure coordinates of BAFF to obtain a homology model structure of a molecule (or molecular complex) whose structure is unknown and at least a portion of whose structure is similar to the
30 structure of BAFF (one such molecule being APRIL), comprising the step of:

applying at least a portion (or all) of the structure coordinates set forth in Figure 8 to generate a three-dimensional molecular model of at least a portion (or all) of the molecule whose structure is
5 unknown, to generate a homology model structure of that molecule. In one embodiment, the unknown structure is at least a portion of BAFF. In another embodiment, the unknown structure comprises an APRIL polypeptide. In a preferred embodiment, the unknown structure comprises
10 the extracellular domain of APRIL. In a more preferred embodiment, the unknown structure comprises a trimer of APRIL polypeptides.

This invention also provides a computer for producing a three-dimensional representation of:

15 a) a homology model structure of at least a portion or all of a molecule or molecular complex whose structure is unknown and at least a portion of whose structure is similar to the structure of BAFF, wherein said homology model structure is defined by at least a
20 portion of (or all) the homology model structure coordinates of all the APRIL amino acids set forth in Figure 10;

wherein said computer comprises:

(i) a machine-readable data storage
25 medium comprising a data storage material encoded with machine-readable data, wherein said data comprises at least a portion of the structure coordinates of all of the APRIL amino acids set forth in Figure 10; and
(ii) instructions for processing said
30 machine-readable data into said three-dimensional representation.

The computer described above can further comprise a display for displaying said homology-model structure coordinates.

The structure coordinates set forth in

5 Figure 8 can also be used for determining at least a portion of the three-dimensional structure of molecules or molecular complexes which contain at least some structural features similar to at least a portion of BAFF. In particular, structural information about
10 another crystallized molecule or molecular complex may be obtained. This may be achieved by any of a number of well-known techniques, including molecular replacement.

Therefore, another embodiment of this
15 invention provides a method of utilizing molecular replacement to obtain structural information about a crystallized molecule or molecular complex whose structure is unknown comprising the steps of:

a) generating an X-ray diffraction pattern
20 from said crystallized molecule or molecular complex;
and

b) applying at least a portion of the
structure coordinates set forth in Figure 8 to the X-ray diffraction pattern to generate a three-dimensional
25 electron density map of the molecule or molecular complex whose structure is unknown.

Preferably, the crystallized molecule or
molecular complex comprises a BAFF polypeptide. In
another preferred embodiment, the crystallized molecule
30 or molecular complex comprises an APRIL polypeptide.

By using molecular replacement, all or part
of the structure coordinates of the extracellular

domain of BAFF provided by this invention (and set forth in Figure 8) can be used to determine the structure of a crystallized molecule or molecular complex whose structure is unknown more rapidly and efficiently than attempting to determine such information ab initio. This method is especially useful in determining the structure of BAFF mutants and homologues, one such homologue being APRIL.

Molecular replacement provides an accurate estimation of the phases for an unknown structure. Phases are a factor in equations used to solve crystal structures that cannot be determined directly. Obtaining accurate values for the phases, by methods other than molecular replacement, is a time-consuming process that involves iterative cycles of approximations and refinements and greatly hinders the solution of crystal structures. However, when the crystal structure of a protein containing at least a homologous portion has been solved, the phases from the known structure provide a satisfactory estimate of the phases for the unknown structure.

Thus, molecular replacement involves generating a preliminary model of a molecule or molecular complex whose structure coordinates are unknown, by orienting and positioning the relevant portion of the extracellular domain of BAFF according to Figure 8 within the unit cell of the crystal of the unknown molecule or molecular complex, so as best to account for the observed X-ray diffraction pattern of the crystal of the molecule or molecular complex whose structure is unknown. Phases can then be calculated from this model and combined with the observed X-ray

diffraction pattern amplitudes to generate an electron density map of the structure whose coordinates are unknown. This, in turn, can be subjected to any well-known model building and structure refinement techniques to provide a final, accurate structure of the unknown crystallized molecule or molecular complex [E. Lattman, "Use of the Rotation and Translation Functions", in Meth. Enzymol., 115, pp. 55-77 (1985); M. G. Rossmann, ed., "The Molecular Replacement Method", Int. Sci. Rev. Ser., No. 13, Gordon & Breach, New York (1972)].

The structure of any portion of any crystallized molecule or molecular complex that is sufficiently homologous to any portion of the extracellular domain of BAFF can be solved by this method. The term "sufficiently homologous to any portion of the extracellular domain of BAFF" refers to a protein or section thereof that has a sequence homology of at least 25% compared to any portion of the extracellular domain of BAFF. In one embodiment, the sequence homology is at least 30%. In one embodiment, the sequence homology is at least 40%.

In a preferred embodiment, the method of molecular replacement is utilized to obtain structural information about a molecule or a molecular complex, wherein the molecule or molecular complex comprises a BAFF-like polypeptide. Preferably the BAFF-like polypeptide is BAFF, a mutant thereof or a homologue thereof, one such homologue being APRIL.

The structure coordinates of the extracellular domain of a BAFF as provided by this invention are particularly useful in solving the

structure of other crystal forms of BAFF-like polypeptide, preferably other crystal forms of BAFF; BAFF-like polypeptide, preferably the extracellular domain of BAFF, or a BAFF-like polypeptide; or
5 complexes comprising any of the above. APRIL is a BAFF-like polypeptide.

Such structure coordinates are also particularly useful to solve the structure of crystals of BAFF-like polypeptide, particularly the
10 extracellular domain of BAFF co-complexed with one or more of its receptors, a variety of chemical entities, a compound, such as an agonist or antagonist of BAFF, or a variant of an agonist or antagonist of BAFF. This approach enables the determination of the optimal sites
15 for interaction between chemical entities, interaction of candidate BAFF agonists or antagonists with BAFF, or interaction of a variant of a BAFF agonist or antagonist, and the extracellular domain of BAFF. For example, high resolution X-ray diffraction data
20 collected from crystals exposed to different types of solvent allows determination of the location where each type of solvent molecule resides. Small molecules that bind tightly to these sites can then be designed and synthesized and tested for their BAFF agonist or
25 antagonist activity.

All of the molecules or molecular complexes referred to above may be studied using well-known X-ray diffraction techniques and may be refined versus 1.5-3.5 Å resolution X-ray data to an R-working value of
30 about 0.25 or less using computer software, such as X-PLOR (Yale University, ©1992, distributed by Molecular Simulations, Inc.; see, e.g., Blundell & Johnson,

supra; Meth. Enzymol., vol. 114 & 115, H. W. Wyckoff et al., eds., Academic Press (1985)). This information may thus be used to optimize BAFF agonists or antagonists, and more importantly, to design new or improved BAFF agonists or antagonists. A BAFF agonist or antagonist may be an antibody, or an antigen binding fragment thereof.

A chemical entity or a compound (including an agonist or antagonist of BAFF), as well as variants of BAFF agonists or antagonists, which could be an antibody, or an antigen binding fragment thereof, or another protein, can be designed by computational means by performing fitting operations. A compound could be a macromolecule, such as a protein or a polypeptide.

The present invention also encompasses methods of evaluating the potential of a chemical entity to associate with a molecule or molecular complex of this invention, or a homologue of said molecule or molecular complex.

This invention provides a method for evaluating the potential of a chemical entity to associate with:

a) a molecule or molecular complex defined by at least a portion or all of the structure coordinates of the BAFF amino acids, set forth in Figure 8; or

b) a homologue of said molecule or molecular complex having a root mean square deviation from the backbone atoms of said amino acids of between 0.00Å and 1.50Å, preferably between 0.00Å and 1.00Å, more preferably between 0.00Å and 0.50Å; comprising the steps of:

(i) employing computational means to perform a fitting operation between said chemical entity and said molecule or molecular complex or between said chemical entity and a homologue of said molecule or molecular complex; and

(ii) analyzing the results of said fitting operation to quantify the association between said chemical entity and said molecule or molecular complex or said homologue of said molecule or molecular complex. In this method, the molecule or molecular complex, or the homologue of the molecule or molecular complex, preferably comprises a binding site; said binding site could be a binding site of BAFF for one or more of its receptors. The fitting operation in (i) above could be between said chemical entity and the binding site of the molecule or molecular complex or the binding site of the homologue of the molecule or molecular complex. The association in (ii) could be the association between said chemical entity and the binding site of the molecule or molecular complex or the binding site of the homologue of the molecule or molecular complex.

This invention also provides a method for evaluating the potential of a chemical entity to associate with:

a) a molecule or molecular complex comprising a first binding site defined by at least one (preferably at least four) or a plurality of BAFF amino acids selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156,

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Leu240, Pro241, Asn242, Ser171 and Phe172 according to Figure 8; or

b) a homologue of said molecule or molecular complex comprising a second binding site having a root mean square deviation from the backbone atoms of said at least one (preferably at least four) or a plurality of BAFF amino acids between 0.00Å and 1.50Å, preferably between 0.00Å and 1.00Å, more preferably between 0.00Å and 0.50Å;

comprising the steps of:

(i) employing computational means to perform a fitting operation between said chemical entity and said first binding site or said second binding site; and

(ii) analyzing the results of said fitting operation to quantify the association between said chemical entity and said first binding site or said second binding site.

Preferably, the first binding site or the second binding site is a binding site of BAFF for one or more receptors of BAFF.

As determined by homology to other TNF family members (see Example 1), the binding site of BAFF for one or more of its receptors comprises a plurality of amino acid residues selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172.

Also, as determined by homology to other TNF family members (see Example 1), the binding site of

BAFF for one or more of its receptors comprises at least one (preferably at least four) amino acid residues selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, 5 Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172.

The present invention also encompasses a method for identifying a potential agonist of BAFF 10 comprising the steps of:

- a) using at least a portion or all of the structure coordinates of the amino acids of BAFF according to Figure 8 \pm a root mean square deviation from the backbone atoms of said BAFF amino acids 15 between 0.00Å and 1.50Å, preferably between 0.00Å and 1.00Å, more preferably between 0.00Å and 0.50Å, to generate a three-dimensional structure of a molecule or a molecular complex;
- b) employing said three-dimensional 20 structure to design or select said potential agonist;
- c) synthesizing said potential agonist; and
- d) contacting said potential agonist with BAFF to determine the ability of said potential agonist to interact with BAFF.

25 The present invention also encompasses a method for identifying a potential antagonist of BAFF comprising the steps of:

- a) using at least a portion or all of the structure coordinates of the amino acids of BAFF 30 according to Figure 8 \pm a root mean square deviation from the backbone atoms of said BAFF amino acids between 0.00Å and 1.50Å, preferably between 0.00Å and

1.00Å, more preferably between 0.00Å and 0.50Å, to generate a three-dimensional structure of a molecule or a molecular complex;

b) employing said three-dimensional
5 structure to design or select said potential antagonist;

c) synthesizing said potential antagonist;
and

d) contacting said potential antagonist
10 with BAFF to determine the ability of said potential antagonist to interact with BAFF.

The molecule or molecular complex preferably comprises a binding site; said binding site could be a binding site of BAFF for one or more of its receptors.

15 This method could further comprise the step of:

e) determining whether said potential antagonist interrupts the interaction between BAFF and one of its receptors.

This invention also provides a method for
20 identifying a potential antagonist of BAFF comprising the steps of:

a) using the structure coordinates of at least one (preferably at least four) or a plurality of BAFF amino acids selected from the group consisting of
25 His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172 according to Figure 8 or \pm a root mean square deviation
30 from the backbone atoms of said at least one (preferably at least four) or a plurality of BAFF amino acids between 0.00Å and 1.50Å, preferably between 0.00Å

and 1.00Å, more preferably between 0.00Å and 0.50Å, to generate a three-dimensional structure of a molecule or a molecular complex comprising a binding site;

b) employing said three-dimensional
5 structure to design or select said potential antagonist;

c) synthesizing said potential antagonist;
and

d) contacting said potential antagonist
10 with BAFF to determine the ability of said potential antagonist to interact with BAFF.

The binding site in step a) could be a binding site of BAFF for one or more of its receptors.

This method could further comprise the step of:

e) determining whether said potential
15 antagonist interrupts the interaction between BAFF and one of its receptors or activates BAFF.

This invention also provides a method for identifying a potential agonist of BAFF comprising the
20 steps of:

a) using the structure coordinates of at least one (preferably at least four) or a plurality of BAFF amino acids selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172
25 according to Figure 8 or \pm a root mean square deviation from the backbone atoms of said at least one (preferably at least four) or a plurality of BAFF amino acids between 0.00Å and 1.50Å, preferably between 0.00Å and 1.00Å, more preferably between 0.00Å and 0.50Å, to
30

45

generate a three-dimensional structure of a molecule or a molecular complex comprising a binding site;

b) employing said three-dimensional structure to design or select said potential agonist;

5 c) synthesizing said potential antagonist;
and

d) contacting said potential agonist with BAFF to determine the ability of said potential agonist to interact with BAFF.

10 The binding site in step a) could be a binding site of BAFF for one or more of its receptors.

A potential agonist or a potential antagonist of BAFF is a compound. A compound could be a macromolecule, such as a protein or a polypeptide.

15 This invention also encompasses methods for evaluating the potential of a variant of an agonist or an antagonist of BAFF to associate with:

a) a molecule or a molecular complex defined by at least a portion or all of the structure coordinates of the BAFF amino acids, set forth in Figure 8; or

b) a homologue of said molecule or molecular complex having a root mean square deviation from the backbone atoms of said amino acids of between
25 0.00Å and 1.50Å, preferably between 0.00Å and 1.00Å, more preferably between 0.00Å and 0.50Å;
comprising the steps of:

(i) employing computational means to perform a fitting operation between the variant and
30 said molecule or molecular complex or said homologue of said molecule or molecular complex; and

(ii) analyzing the results of said fitting operation to quantify the association between said variant and said molecule or molecular complex or between said variant and said homologue of said molecule or molecular complex.

The molecule or molecular complex or the homologue of the molecule or molecular complex preferably comprises a binding site; said binding site could be a binding site of BAFF for one or more of its receptors.

This invention also provides a method for evaluating the potential of a variant of an agonist or an antagonist of BAFF, to associate with:

a) a first binding site of a molecule or a molecular complex defined by structure coordinates of at least one (preferably at least four) or a plurality of BAFF amino acids selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172, set forth in Figure 8; or

b) a homologue of said molecule or molecular complex comprising a second binding site having a root mean square deviation from the backbone atoms of said at least one (preferably at least four) or a plurality of BAFF amino acids between 0.00Å and 1.50Å, preferably between 0.00Å and 1.00Å, more preferably between 0.00Å and 0.50Å; comprising the steps of:

(i) employing computational means to perform a fitting operation between the variant and

said first binding site or said second binding site;
and

(ii) analyzing the results of said fitting operation to quantify the association between
5 said variant and said first binding site or said second binding site. Preferably, the first binding site in step a) or the second binding site in step b) is a binding site of BAFF for one or more of the receptors of BAFF. The fitting operation in (i) above could be
10 between said variant and the binding site of the molecule or molecular complex or the binding site of the homologue of the molecule or molecular complex. The association in (ii) could be the association between said variant and the binding site of the
15 molecule or molecular complex or the binding site of the homologue of the molecule or molecular complex.

Thus, the present invention provides BAFF agonist or antagonist variants with improved properties, such as increased or decreased binding
20 affinity for BAFF.

The present invention also encompasses the chemical entities, agonists or antagonists of BAFF, variants of a BAFF agonist or antagonist, as well as compositions, such as pharmaceutical compositions,
25 comprising the chemical entities, agonists or antagonists of BAFF, variants of a BAFF agonist or antagonist, identified by these methods.

For the first time, the present invention permits the use of molecular design techniques to
30 design, select and synthesize chemical entities, compounds, including agonists or antagonists of BAFF, and variants of BAFF agonists or antagonists.

The design of chemical entities, compounds, including agonists or antagonists of BAFF, and variants of BAFF agonists or antagonists according to this invention generally involves consideration of two
5 factors. First, chemical entities, compounds, including agonists or antagonists of BAFF, and variants of BAFF agonists or antagonists must be capable of physically and structurally associating with BAFF. Non-covalent molecular interactions important in the
10 association of a protein, such as BAFF, with its binding partner include hydrogen bonding, van der Waals and hydrophobic interactions.

Second, the chemical entities, compounds, including agonists or antagonists of BAFF, and variants
15 of BAFF agonists or antagonists must be able to assume a conformation that allows them to associate with BAFF directly. Although certain portions of chemical entities, compounds, including agonists or antagonists of BAFF, and variants of BAFF agonists or antagonists
20 will not directly participate in these associations, those portions of chemical entities, compounds, including agonists or antagonists of BAFF, and variants of a BAFF agonist or antagonist may still influence the overall conformation of the molecule. This, in turn,
25 may have a significant impact on potency. Such conformational requirements include the overall three-dimensional structure and orientation of the chemical entities, compounds, including agonists or antagonists of BAFF, and variants in relation to all or a portion
30 of the binding site, e.g., active site or accessory binding site of BAFF, or the spacing between functional

groups of a compound comprising several chemical entities that directly interact with BAFF.

The potential binding effect on BAFF of a chemical entity, a compound, including an agonist or antagonist of BAFF, and a variant of a BAFF agonist or antagonist can be analyzed prior to its actual synthesis or generation and testing by the use of computer modeling techniques. If the theoretical structure of the given entity or compound or variant suggests insufficient interaction and association with BAFF, synthesis and testing of the entity or compound or generation and testing that particular variant is obviated. However, if computer modeling indicates a strong interaction, the entity, compound, including an agonist or antagonist of BAFF, or variant may then be generated and tested for its ability to bind to BAFF and interrupt its association with one or more BAFF receptors using the assays described below. In this manner, generation of undesired or inoperative entities, compounds, including agonists or antagonists of BAFF, or variants may be avoided.

A BAFF-binding entity, compound, including an agonist or antagonist of BAFF, and variant of a BAFF agonist or antagonist can be computationally evaluated and designed by means of a series of steps in which chemical entities or fragments are screened and selected for their ability to associate with the binding sites of BAFF as defined in this invention. Likewise, a BAFF variant can be obtained. Examples of BAFF variants are: a BAFF variant that binds to only a subset of the receptors that bind BAFF; a BAFF variant that binds to a particular receptor of BAFF with higher

or lower affinity than the native BAFF protein. For instance, BCMA and BAFF-R has only one cysteine-rich domain ("CRD"). Mutations of residues of BAFF involved in binding to the second CRD of TACI should result in a BAFF variant that can bind to BCMA and BAFF-R, but not to TACI.

One skilled in the art can use one of several methods to screen chemical entities for their ability to associate with BAFF and more particularly with a binding site of BAFF. This process may begin by visual inspection of, for example, the binding site for a receptor of BAFF on the computer screen, based on the BAFF structure coordinates in Figure 8 generated from the machine-readable storage medium and the process of obtaining an exact binding site described herein. Selected chemical entities may then be positioned in a variety of orientations, or docked, within an individual binding site of BAFF, as defined supra (such as a binding site of BAFF for one of its receptors). Docking may be accomplished using software such as Quanta or Sybyl, followed by energy minimization and molecular dynamics with standard molecular mechanics forcefields, such as CHARMM and AMBER.

Specialized computer programs may also assist in the process of selecting chemical entities. These include, inter alia:

1. GRID (Goodford, P.J., "A Computational Procedure for Determining Energetically Favorable Binding Sites on Biologically Important Macromolecules", J. Med. Chem., 28, pp. 849-857 (1985)). GRID is available from Oxford University, Oxford, UK.
2. MCSS (Miranker, A. and M. Karplus, "Functionality Maps of Binding Sites: A Multiple Copy Simultaneous Search Method." Proteins:

Structure, Function and Genetics, 11, pp. 29-34 (1991)). MCSS is available from Molecular Simulations, Burlington, MA.

- 5 3. AUTODOCK (Goodsell, D.S. and A.J. Olsen, "Automated Docking of Substrates to Proteins by Simulated Annealing", Proteins: Structure, Function, and Genetics, 8, pp. 195-202 (1990)). AUTODOCK is available from Scripps Research Institute, La Jolla, CA.

- 10 4. DOCK (Kuntz, I.D. et al., "A Geometric Approach to Macromolecule-Ligand Interactions", J. Mol. Biol., 161, pp. 269-288 (1982)). DOCK is available from University of California, San Francisco, CA.

15 Once suitable chemical entities have been selected, they can be assembled into a single compound. Assembly may proceed by visual inspection of the relationship of the entities to each other on the three-dimensional image displayed on a computer screen
20 in relation to the structure coordinates of BAFF. This is followed by manual model building using software such as Quanta or Sybyl.

 The above-described evaluation process for chemical entities may be performed in a similar fashion
25 for compounds that associate with BAFF or for variants of agonists and antagonists of BAFF.

 Useful programs to aid one of skill in the art in connecting the individual chemical entities include:

- 30 1. CAVEAT (Bartlett, P.A. et al, "CAVEAT: A Program to Facilitate the Structure-Derived Design of Biologically Active Molecules". In "Molecular Recognition in Chemical and Biological Problems", Special Pub., Royal Chem. Soc., 78, pp. 182-196
35 (1989)). CAVEAT is available from the University of California, Berkeley, CA.

2. 3D Database systems such as MACCS-3D (MDL Information Systems, San Leandro, CA). This area is reviewed in Martin, Y.C., "3D Database Searching in Drug Design", J. Med. Chem., 35, pp. 2145-2154 (1992)).
3. HOOK (available from Molecular Simulations, Burlington, MA).

Instead of proceeding to build a BAFF agonist or antagonist or a BAFF binding compound in a step-wise fashion one chemical entity at a time, as described above, BAFF agonists or antagonists or other BAFF binding compounds, including variants of BAFF agonists or antagonists, may be designed as a whole or "de novo" using either an empty binding site (such as a binding site for one or more of the BAFF receptors) or optionally including some portion(s) of a known antagonist(s) of BAFF or a BAFF binding compound.

These methods include:

1. LUDI (Bohm, H.-J., "The Computer Program LUDI: A New Method for the De Novo Design of Enzyme Inhibitors", J. Comp. Aid. Molec. Design, 6, pp. 61-78 (1992)). LUDI is available from Biosym Technologies, San Diego, CA.
2. LEGEND (Nishibata, Y. and A. Itai, Tetrahedron, 47, p. 8985 (1991)). LEGEND is available from Molecular Simulations, Burlington, MA.
3. LeapFrog (available from Tripos Associates, St. Louis, MO).

Other molecular modeling techniques may also be employed in accordance with this invention. See, e.g., Cohen, N.C. et al., "Molecular Modeling Software and Methods for Medicinal Chemistry," J. Med. Chem., 33, pp. 883-894 (1990). See also Navia, M.A. and M.A. Murcko, "The Use of Structural Information in Drug

Design", Current Opinions in Structural Biology, 2, pp. 202-210 (1992).

Once an entity, compound, including an agonist or antagonist of BAFF, or variant of agonists or antagonists of BAFF has been designed or selected by the above methods, the efficiency with which that entity, compound, including an agonist or antagonist of BAFF, or variant may bind to BAFF can be tested and optimized by computational evaluation. For example, a compound that has been designed or selected to function as a BAFF binding compound must also preferably traverse a volume not overlapping that occupied by the binding site when it is bound to the native BAFF. An effective BAFF binding compound must preferably demonstrate a relatively small difference in energy between its bound and free states (i.e., a small deformation energy of binding). Thus, the most efficient BAFF binding compound should preferably be designed with a deformation energy of binding of not greater than about 10 kcal/mole, preferably, not greater than 7 kcal/mole. BAFF binding compounds may interact with the BAFF in more than one conformation that is similar in overall binding energy. In those cases, the deformation energy of binding is taken to be the difference between the energy of the free compound and the average energy of the conformations observed when the compound binds to the protein.

A compound designed or selected as binding to BAFF may be further computationally optimized so that in its bound state it would preferably lack repulsive electrostatic interaction with the target protein. Such non-complementary (e.g., electrostatic)

interactions include repulsive charge-charge, dipole-dipole and charge-dipole interactions. Specifically, the sum of all electrostatic interactions between the compound and the protein when the compound is bound to
5 BAFF, preferably make a neutral or favorable contribution to the enthalpy of binding.

Specific computer software is available in the art to evaluate compound deformation energy and electrostatic interaction. Examples of programs
10 designed for such uses include: Gaussian 92, revision C (M.J. Frisch, Gaussian, Inc., Pittsburgh, PA ©1992); AMBER, version 4.0 (P.A. Kollman, University of California at San Francisco, ©1994); QUANTA/CHARMM (Molecular Simulations, Inc., Burlington, MA ©1994);
15 and Insight II/Discover (Biosym Technologies Inc., San Diego, CA ©1994). These programs may be implemented, for instance, using a Silicon Graphics workstation, IRIS 4D/35 or IBM RISC/6000 workstation model 550. Other hardware systems and software
20 packages will be known to those skilled in the art.

Once a BAFF-binding compound has been optimally selected or designed, as described above, substitutions may then be made in some of its atoms or side groups to improve or modify its binding
25 properties. Generally, initial substitutions are conservative, i.e., the replacement group will have approximately the same size, shape, hydrophobicity and charge as the original group. It should, of course, be understood that components known in the art to alter
30 conformation should be avoided. Such substituted chemical compounds may then be analyzed for efficiency

of fit to BAFF by the same computer methods described in detail above.

Another approach made possible and enabled by this invention is computational screening of small molecule databases for chemical entities or compounds that can bind in whole, or in part, to BAFF; preferably to a binding site of BAFF for one or more of its receptors. In this screening, the quality of fit of such entities to the binding site may be judged either by shape complementarity or by estimated interaction energy. Meng, E.C. et al., J. Comp. Chem., 13, pp. 505-524 (1992).

The same methods described above for designing and obtaining chemical entities, compounds, including agonists or antagonists of BAFF, and variants of agonists or antagonists of BAFF can be employed to design and obtain BAFF variants.

Synthetic Compounds

The compounds of this invention can be synthetic compounds. In one embodiment, a synthetic compound designed by the methods of this invention has a molecular weight equal to or under about 1000 daltons. A synthetic compound designed by the methods of this invention preferably is soluble under physiological conditions. A synthetic compound designed by the methods of this invention preferably is bioavailable. A synthetic compound designed by the methods of this invention is preferably orally administrable. A synthetic compound designed by the methods of this invention preferably is able to bind its target (BAFF) when the target is present at

physiological concentrations. A synthetic compound designed by methods of this invention preferably is non-toxic or has a medically acceptable toxicity.

5 Assays for Confirming that the Novel Compounds Bind and Interrupt Interaction Between BAFF and One or More of Its Receptors

 A person skilled in the art is aware of conventional assays for assessing whether the entities, compounds, including agonists or antagonists of BAFF,
10 or variants of BAFF agonists or antagonists designed according to the methods of this invention, once made, bind specifically to BAFF and whether they interrupt the interaction between BAFF and one of its receptors or act as agonists of BAFF.

15 Conditions Associated with Inappropriate BAFF Induced Activation in a Subject

 The chemical entities, compounds, including agonists or antagonists of BAFF, and variants of BAFF agonists or antagonists designed according to methods
20 of this invention, as well as a composition, such as a pharmaceutical composition, comprising one or more chemical entities, compounds, including agonists or antagonists of BAFF, or variants, or combinations thereof, designed by methods of this invention, can be
25 used to treat or prevent subjects having conditions associated with inappropriate or abnormal BAFF expression or activation, possibly in conjunction with one or more agents.

 Examples of conditions associated with
30 inappropriate or abnormal BAFF expression or activation in a subject, include, inter alia: systemic lupus erythematosus, lupus nephritis, lupus neuritis, asthma,

chronic obstructive pulmonary disease, bronchitis, emphysema, multiple sclerosis, uveitis, Alzheimer's disease, traumatic spinal cord injury, stroke, atherosclerosis, coronary restenosis, ischemic congestive heart failure, cirrhosis, hepatitis C, diabetic nephropathy, glomerulonephritis, osteoarthritis, rheumatoid arthritis, psoriasis, atopic dermatitis, systemic sclerosis, radiation-induced fibrosis, Crohn's disease, ulcerative colitis, multiple myeloma and cachexia.

Conditions associated with inappropriate or abnormal BAFF expression or activation in a subject, include, inter alia: cancer, autoimmune diseases, allergy, unwanted immune response, unwanted inflammatory response, rejection of donor tissue or organ, an inhibitor response to a therapeutic agent, such as a protein.

Subjects

The novel entities, compounds, including agonists or antagonists of BAFF, and variants of agonists or antagonists of BAFF designed according to this invention can be administered for treatment or prophylaxis of any mammalian subject suffering or about to suffer a condition associated with inappropriate BAFF expression or activation. Preferably, the subject is a primate, more preferably a higher primate, most preferably a human. In other embodiments, the subject may be a mammal of commercial importance, or a companion animal, or other animal of value, such as a member of an endangered species. Thus, a subject may be, inter alia, sheep, horses, cattle, goats, pigs,

dogs, cats, rabbits, guinea pigs, hamsters, gerbils, rats and mice.

Route of Administration

The novel entities, compounds, including
5 agonists or antagonists of BAFF, and variants of
agonists or antagonists of BAFF designed according to
this invention may be administered in any manner which
is medically acceptable. Depending on the specific
circumstances, local or systemic administration may be
10 desirable. Local administration may be, for example,
by subconjunctival administration. Preferably, the
novel entities, compounds, including agonists or
antagonists of BAFF, and variants of agonists or
antagonists of BAFF is administered via an oral, an
15 enteral, or a parenteral route such as by an
intravenous, intraarterial, subcutaneous,
intramuscular, intraorbital, intraventricular,
intraperitoneal, subcapsular, intracranial,
intraspinal, topical or intranasal injection, infusion
20 or inhalation. The novel entities, compounds,
including agonists or antagonists of BAFF, and variants
of agonists or antagonists of BAFF also may be
administered by implantation of an infusion pump, or a
biocompatible or bioerodible sustained release implant,
25 into the subject.

Dosages and Frequency of Treatment

Generally, the methods described herein
involve administration of the novel entities,
compounds, including agonists or antagonists of BAFF,
30 and variants of agonists or antagonists of BAFF
designed according to methods of this invention at

desired intervals (e.g., daily, twice weekly, weekly, biweekly, monthly or at other intervals as deemed appropriate) over at least a two- or three-week period. The administration schedule is adjusted as needed to
5 treat the condition associated with inappropriate or abnormal BAFF activation in the subject. The present treatment regime can be repeated in the event of a subsequent episode of illness.

The amount and frequency of dosing for any
10 particular compound to be administered to a patient for inappropriate or abnormal BAFF expression or activation, or for a given immunological condition associated therewith, is within the skill and clinical judgment of ordinary practitioners of the medical and
15 pharmaceutical arts. The general dosage and administration regime may be established by preclinical and clinical trials, which involve extensive but routine studies to determine the optimal administration parameters of the compound. Even after such
20 recommendations are made, the practitioner will often vary these dosages for different subjects based on a variety of considerations, such as the individual's age, medical status, weight, sex, and concurrent treatment with other pharmaceuticals. Determining the
25 optimal dosage and administration regime for each of the novel entity, compound, agonist or antagonist of BAFF used would be a routine matter for those of skill in the medical and pharmaceutical arts.

Generally, the frequency of dosing may be
30 determined by an attending physician or similarly skilled practitioner, and might include periods of greater dosing frequency, such as at daily or weekly

intervals, alternating with periods of less frequent dosing, such as at monthly or longer intervals.

For treatment, a novel entity, compound, including an agonist or antagonist of BAFF, or variant
5 of an agonist or antagonist of BAFF designed by methods of this invention can be formulated in a pharmaceutical or prophylactic composition which includes, respectively, a pharmaceutically or prophylactically effective amount thereof dispersed in a
10 pharmaceutically acceptable carrier. In some embodiments, the pharmaceutical or prophylactic composition can also include a pharmaceutically or prophylactically effective amount of another medically beneficial compound.

15 Formulation

In general, chemical entities, compounds, including agonists or antagonists of BAFF, or variants of BAFF agonists or antagonists of this invention are suspended, dissolved or dispersed in a pharmaceutically
20 acceptable carrier or excipient. The resulting therapeutic composition does not adversely affect the recipient's homeostasis, particularly electrolyte balance. Thus, an exemplary carrier comprises normal physiologic saline (0.15M NaCl, pH 7.0 to 7.4). Other
25 acceptable carriers are well known in the art and are described, for example, in Remington's Pharmaceutical Sciences, Gennaro, ed., Mack Publishing Co., 1990. Acceptable carriers can include biocompatible, inert or bioabsorbable salts, buffering agents, oligo- or
30 polysaccharides, polymers, viscoelastic compound such

as hyaluronic acid, viscosity-improving agents, preservatives, and the like.

A chemical entity, compound, including an agonist or antagonist of BAFF, or variant of a BAFF
5 agonist or antagonist of this invention may be administered in a pharmaceutically effective, prophylactically effective or therapeutically effective amount, which is an amount sufficient to produce a detectable, preferably medically beneficial effect on a
10 subject at risk or afflicted with a condition associated with inappropriate or abnormal BAFF expression or activation. Medically beneficial effects include preventing, inhibiting, reversing or attenuating deterioration of, or detectably improving,
15 the subject's medical condition.

APRIL

As illustrated in Example 2 (in which a homology model of human APRIL amino acids 114 to 250 was built; see also Figure 10), a homology model of
20 APRIL may be built based on the crystal structure coordinates of a BAFF polypeptide. Furthermore, the structure coordinates of a BAFF polypeptide may be used to solve the crystal structure of APRIL, as discussed herein. The three-dimensional structure of a binding
25 site of APRIL for one or more of the receptors of APRIL may be determined using the methods described herein for the determination of a binding site of BAFF for one or more receptors of BAFF. A putative binding site of APRIL for its receptors is determined herein by one
30 embodiment of this invention. The putative receptor binding site residues on human APRIL for one or more of

its receptors include Gly188, Arg189, Gln190, Glu191, Pro230, Arg231, Ala232, Ser131, Asp132, Val133, Pro122, Ile123, Asn124, Ala125, Thr126, Ser127, Arg206, Ala207, Tyr208, Ala141 and Leu142, and possibly other human

5 APRIL amino acid residues. See Example 2. As in the case of BAFF, a computer for generating a three-dimensional representation of the binding site of APRIL for one or more of its receptors is included in this invention.

10 Once the three-dimensional structure of APRIL and a binding site of APRIL for one of the receptors of APRIL are obtained, they may be used to design and obtain chemical entities, compounds, such as agonists and antagonists of APRIL and variants of agonists or
15 antagonists of APRIL, as well as compositions (including pharmaceutical compositions) comprising the entities, compounds, including agonists or antagonists of BAFF, or variants, by the same manner described herein for BAFF. Also, once the three-dimensional
20 structure of a binding site of APRIL for one of the receptors of APRIL is obtained, it may be used to design and obtain novel APRIL proteins that can bind to a subset of its receptors, can bind to a receptor that it could not bind to before, and that can bind to a
25 receptor of APRIL with higher or lower affinity than the native APRIL protein.

As in the case of BAFF, methods for generating APRIL variants and the variants themselves are included in this invention.

30 As in the case of BAFF, this invention includes molecules or molecular complexes defined by the structure coordinates of APRIL set forth in Figure

10 and molecules or molecular complexes comprising a binding site of APRIL (as detailed in Example 2) for one of its receptors. This invention also includes computers for producing three-dimensional
5 representations of molecules or molecular complexes defined by the structure coordinates of APRIL set forth in Figure 10 and molecules or molecular complexes comprising a binding site of APRIL (as detailed in Example 2) for one of its receptors. This invention
10 also includes methods of using the structures of molecules or molecular complexes defined by the structure coordinates of APRIL set forth in figure 10 and methods of using the structures of molecules or molecular complexes comprising a binding site of APRIL
15 (as detailed in Example 2) for one of its receptors.

The following are EXAMPLES that illustrate the methods and compositions of this invention. These examples should not be construed as limiting: the examples are included for the purposes of illustration
20 only.

All references cited herein are hereby incorporated by reference.

**EXAMPLE 1 DETERMINATION OF THE CRYSTAL STRUCTURE
 OF A BAFF POLYPEPTIDE**

25 The crystal structure of the TNF-homologous domain of human BAFF at 2.8 Å resolution is provided herein. The structure coordinates are shown in Figure 8.

 A myc-tagged extracellular domain fragment of
30 human BAFF (hBAFF) (residues 136-285) (see Figure 9b; SEQ ID NO: 2) was expressed in yeast cells, purified and crystallized.

Recombinant myc-hBAFF (residues Q136-L285 of BAFF with the myc sequence EQKLISEEDLNKEL (SEQ ID NO: 4) attached to the N-terminus) was cloned and expressed in yeast cells (*Pichia pastoris*). The protein was
5 purified by anion exchange chromatography followed by gel filtration. Briefly, supernatant from *Pichia* cells was dialyzed; exchanged into a buffer of 10 mM Tris-HCl, pH 7.2; 50 mM NaCl; then loaded onto a Q column and eluted with a NaCl gradient (50 mM-500 mM).
10 Further purification of myc-hBAFF was achieved by size exclusion chromatography using a Superdex 75 (26/70) column. The purified protein was analyzed by SDS-PAGE followed by Coomassie Blue staining, Western blot analysis using a mouse monoclonal 9E10 antibody (an
15 anti-myc antibody), and N-terminal sequencing.

For crystallization, the protein was concentrated to 9 mg/ml in PBS buffer (150 mM sodium phosphate pH 7, 150 mM NaCl). Crystallization conditions were determined using the crystallization
20 screening kits from Hampton Research (Liguna Niguel, CA). Crystals of optimal size were grown by vapor diffusion at 4°C in hanging drops made by mixing 3 µl of protein solution with 3 µl of reservoir solution of 8% PEG 4000, 0.1 M sodium acetate pH 4.5. The
25 crystals, which were rod-shaped with hexagonal cross-section, having maximal dimensions 0.2 x 0.2 x 1 mm, grew within 3 to 7 days.

The crystals were cryoprotected by gradually equilibrating them in a solution containing 25%
30 ethylene glycol, 12% PEG 4000, 0.1 M Na acetate pH 4.5, and then flash frozen in liquid nitrogen. Native X-ray diffraction data up to 3.3 Å resolution were collected

at -175°C on an R-axis IV detector system (Molecular Structure Corporation, Woodlands, TX) using Cu K α radiation. The unit cell was hexagonal, with cell dimensions $a = b = 122.12 \text{ \AA}$, $c = 157.55 \text{ \AA}$. Data
5 processing with DENZO and SCALEPACK (Otwinowski, Z., Oscillation Data Reduction Program, Proceeding of the CCP4 study weekend: data collection and processing. Daresbury Laboratory, Warrington, UK: Sawyer, L., Isaacs, N. & Bailey, S. eds. 56-62(1993)) indicated
10 that the space group was $P6_1$ or its enantiomorph $P6_5$. The Matthews coefficient (Matthews, B.W., J.Mol.Biol., 33: p. 491-497 (1968)) was $2.83 \text{ \AA}^3 \text{ Da}^{-1}$ with a solvent content of 56.1%, indicating that there are two trimers of BAFF in the asymmetric unit. Data statistics are
15 shown in Table 1.

The crystal structure was solved by multiple isomorphous replacement (MIR) and refined to 2.8 \AA resolution. Attempts to solve the structure by molecular replacement with the program AMoRe (Navaja,
20 J., AMoRe: an Automated Package for Molecular Replacement, Acta Crystallogr. A, 50: p. 157-163 (1994)) from the CCP4 program package (Collaborative Computational Projects No. 4. The CCP4 Suite: Programs for Protein Crystallography, Acta Cryst. D50: p. 760-
25 763) using a variety of TNF-related structures as search probes were not successful. No obvious peaks corresponding to the 3-fold axes of the two BAFF trimers were observed in the self rotation function, apparently due to a diffuse Patterson map, similar to
30 the case of TNF (Jones, E.Y., et al., Acta Crystallogr A, 47(Pt 6): p. 753-70 (1991)). A search for heavy atom derivatives was undertaken and useful phase

information was obtained from Hg, Pt, Ir and Sm derivatives by using the program SOLVE (Terwilliger, T.C. and J. Berendzen, Acta Crystallogr D Biol Crystallogr, 55(Pt 4): p. 849-61 (1999)) (Table 1).

5. The resulting electron density map (figure of merit 0.41) was considerably improved by density modification with the program RESOLVE (figure of merit 0.67) (Terwilliger, T.C., Acta Crystallogr D, 56: p. 965-972 (2000)). Inspection of maps revealed continuous
10 density for the polypeptide chains and indicated that the correct space group is $P6_5$. A partial model of BAFF based on the human CD40L structure (Karpusas, M., et al., Structure, 3(12): p. 1426 (1995) and Karpusas, M., et al., Structure, 3: p. 1031-1039 (1995)) was
15 manually fit on to the map and was rigid-body refined with XPLOR (Brunger, A.T., X-PLOR Version 3.0: a System for X-ray Crystallography and NMR, New Haven, USA, Yale University Press (1992)). The initial crystallographic R-factor was 50.5%. The fitted model was used to
20 calculate non-crystallographic symmetry (NCS) operators. Phases calculated from the model were combined with experimental phases with SIGMAA from CCP4 package (Collaborative Computational Projects No. 4. The CCP4 Suite: Programs for Protein Crystallography,
25 Acta Cryst. D50: p. 760-763) and were improved by solvent flattening, histogram matching and 6-fold averaging with the program DM from the CCP4 package (Collaborative Computational Projects No. 4. The CCP4 Suite: Programs for Protein Crystallography, Acta
30 Cryst. D50: p. 760-763). The RESOLVE and DM maps as well as the 2Fo-Fc maps were used for iterative model

building with the graphics program QUANTA (Molecular Simulations, Inc., San Diego, CA).

All subsequent refinement steps were carried out using the program CNX (Brunger, A.T., Crystallography & NMR System: a New Software for Macromolecular Structure Determination, Acta Crystallogr. D., 54: p. 905-921 (1998); and Molecular Simulations, Inc.). These included maximum likelihood positional refinement, torsion angle simulated annealing and grouped B-factor refinement with NCS restraints. 10% of the data were allocated for calculation of the R-free factor. A bulk-solvent correction was employed after the complete model was built. Simulated annealing omit maps were used to check validity of the model. NCS restraints were removed for certain regions of the molecule at the later stages of refinement. After completion of refinement, the R-working and R-free factors of the model were 22.6 % and 26.8 % respectively for the data ($F > 2\sigma$) in the 35-3.3 Å resolution range. At that stage, synchrotron data to 2.8 Å resolution were collected at beamline X4A of National Synchrotron Light Source (NSLS) and the structure was further refined against the new data (Table 1). The R-working and R-free factors of the final refined model were 21.7 % and 25.0 % respectively for the data ($F > 2\sigma$) in the 30-2.8 Å resolution range (R-working and R-free are 22.2 % and 25.4 % respectively for the data ($F > 0\sigma$) in the 35-2.8 Å resolution range). Stereochemistry statistics were calculated with PROCHECK (Laskowski, R.A., et al., J. Appl. Crystallogr., 26: p. 283-290 (1993)) and CNX (Brunger, A.T., Crystallography & NMR System: a New

Software for Macromolecular Structure Determination,
Acta Crystallogr. D., 54: p. 905-921 (1998)).

Electrostatic potential surfaces were calculated with
GRASP (Nicholls, A., GRASP: Graphical Representation
5 and Analysis of Surface Properties (New York, Columbia
University) (1992)). Additional data statistics are
presented in Table 1.

Despite the limited resolution range, all
residues except the myc-tag and N-terminal residues
10 136-141 were uniformly well defined in the final 2Fo-Fc
electron density map (Figure 1). The asymmetric unit
of the crystal contained two trimers of BAFF. The
final crystallographic R-working and R-free were 21.7%
and 25.0% respectively for the data ($F > 2\sigma$) in the 30-
15 2.8 Å resolution range. The model consists of 864
amino acid residues constituting 6 polypeptide chains.
No water molecules were added to the model. The root
mean square (r.m.s.) deviations on bond lengths were
0.008 Å and on bond angles were 1.4°. All non-glycine
20 residues have ϕ/ψ angles in the allowed regions of the
Ramachandran diagram and 84.8% of the residues had ϕ/ψ
angles in the most favored regions. The average B-
factor of the main chain atoms is 37.4 Å².
Crystallographic statistics are summarized in Table 1.

25 Like the other TNF family members, the
crystallized BAFF fragment is a homotrimeric protein
with an overall shape that resembled that of a
truncated pyramid (Figures 2a and 2b). The dimensions
of the molecular trimer were 58 x 58 x 54 Å. Each
30 monomer folded as a sandwich of two antiparallel β -
sheets with Greek key topology. In the description
that follows, for the β -strands and other structural

features, the notation introduced for TNF is used (Eck, M.J. and S.R. Sprang, J Biol Chem, 264(29): p. 17595-605 (1989)). The inner β -sheet is involved in monomer contacts and is composed of β -strands A'', A, H, C and F (Figure 2a). The outer sheet contains most of the solvent-exposed residues and is composed of A1, A2, B', B, G, D and E strands. The β -strands are connected by loops whose length varies considerably. The core of the protein is mostly hydrophobic but it also contains a few buried polar residues involved in interactions, such the one between the His210 and Tyr201 side chains. A disulfide bridge connecting Cys232 of β -strand E with Cys245 of β -strand F was observed. There is also a free cysteine (Cys146) at the N-terminal end of the A strand that is partially exposed to the solvent.

The three monomers were related to each other by a 3-fold axis that was aligned approximately with the β -strands of the monomers. The monomer interface was primarily hydrophobic, characterized by the participation of 5 aromatic side chain residues (Tyr192, Phe194, Tyr196, Tyr246, Phe278). A 3-residue cluster was formed by Gln234 from each monomer on the 3-fold axis near the top of the pyramid. Approximately 945 \AA^2 of monomer solvent accessible surface was buried to form the trimer and 56% of that surface area was hydrophobic.

The r.m.s. positional deviation between equivalent residues from different BAFF monomers was small (0.66 \AA). The deviation was mostly due to significant differences in the conformation for the D-E loop that include positional shifts as large as 3.5 \AA for some atoms. Three different hairpin-like

conformations were observed for the D-E loop. The first one was adopted by four out of the six monomers and was stabilized by an internal hydrogen bond between the amide group of Glu223 and the carbonyl group of Phe220 and by interactions with symmetry related molecules. The other two conformations were adopted by the other two monomers respectively and were characterized by the absence of any crystal contacts for the loop. In one of the monomers, the loop was stabilized by a hydrogen bond between side chain atom O ϵ 1 of Glu223 and the amide nitrogen of Phe220. The side chain of Glu223 was also stabilized by an interaction of O ϵ 2 with the N ζ of Lys216.

Weak electron density was observed for the biantennary complex-type carbohydrate attached to residue Asn242 on the F strand of BAFF. Mass spectrometry analysis of the protein material used for the crystallization indicated the presence of a BAFF component corresponding to the protein plus a high mannose glycan. Apparently, the crystallization process selected both the glycosylated and aglycosylated species of BAFF. The electron density was not clear enough to allow model building of the carbohydrate residues. However, it is obvious that residues Tyr206 and Arg231 make contacts with the carbohydrate. There are no crystal contacts close to that region and the rest of the carbohydrate is disordered within a large solvent channel in the crystal.

Although the overall structure of BAFF was similar to that of other TNF family members, the structure of the loops and certain β -strands varied

considerably as compared to that of other TNF family members. BAFF has low sequence homology with other family members: the sequence identity of BAFF with each of TNF- α , LT- α , CD40L and TRAIL is 21.5%, 21.5%, 17.4% and 20.1%, respectively, based on structural alignments (Figures 3a and 3b); and the corresponding r.m.s. positional deviations between equivalent C α atoms of BAFF with each of TNF- α , LT- α , CD40L and TRAIL is 2.1 Å, 2.0 Å, 2.0 Å and 2.4 Å, respectively. The BAFF crystal structure determined herein is the first available structure of a group of TNF family member proteins characterized by the presence of a disulfide bridge connecting β -strands E and F.

The BAFF structure showed conservation of hydrophobic residues that are important components of the protein core of TNF family members, such as Trp168 and Phe279. The size and position of the major β -strands is similar to that of other TNF family members, with the exception of strand F, which is markedly shorter. The structure showed that the first loop that connected strands A and A" was rather long and contained two short β -strands (termed A1 and A2), which formed an extension of the external β -sheet. Analogous β -strands have not been observed in the previously determined members of the TNF family except for a strand, similar to A1, that has been observed in one of the available Apo2L/TRAIL structures (Mongkolsapaya, J., et al., Nat Struct Biol, 6(11): p. 1048-1053 (1999)). The conformation of the A-A" loop was stabilized by the two small β -strands and a few other interactions with other parts of the molecule, as evidenced by the well defined electron density.

Another unusual feature of the BAFF structure was the absence of the loop connecting A' and A'' strands. In the case of BAFF, these two strands formed a single continuous A'' strand with a β -bulge in the middle.

5 The C-D and E-F loops of the BAFF structure that are located at the "top" of the pyramid were shorter than those of the other members of the TNF family. Their shorter length may account for the well-defined electron density, which is not common for that
10 region of TNF ligands. The most notable feature of the BAFF structure was an unusually long and extended D-E loop (residues Lys216-Ser215) (Figures 2a and 2b). This D-E loop appeared to be the longest D-E loop of all the known members of the TNF family and
15 corresponded to an insertion of 6-11 amino acid residues (depending to the TNF member it is compared with). This loop is flexible, as evidenced by the presence of three different conformations in the crystal.

20 Although the structure of the G-H loop is generally conserved in the four other known structures of TNF family members, it is significantly different in BAFF, particularly for the N-terminal part of the loop (Pro264-Asn267). That part of the loop was observed to
25 extend further away from the core of the molecule and was stabilized by several interactions, including an H-bond between O δ 1 of Asp203 and the carbonyl oxygen of Ala268 and an H-bond between O ϵ 1 of Gln159 and the amide nitrogen of Asn267.

30 The disulfide bridge connecting strands E and F may play a role in stabilizing the BAFF molecule. The bridge lay close to the 3-fold axis in a region of

the molecule that frequently contain stabilizing elements, such as other disulfide bonds, as in TNF α and CD40L, or such as a Zn²⁺ binding site, as in Apo2L/TRAIL (Hymowitz, S.G., et al., Biochemistry, 39(4): p. 633-40 (2000)).

In the absence of structure-function data for BAFF and a co-crystal structure of a complex of BAFF and one of its receptors, the location of the binding site for the three known BAFF receptors (BCMA, TACI and BAFF-R) may only be inferred by analogy to what is known for other TNF family members. It is therefore expected to lie in the elongated cleft formed between adjacent monomers of a BAFF trimer. Three receptor binding sites are expected to exist per BAFF trimer; roughly consisting of residues of the D-E, A''-A, C-D and G-H loops, involving BAFF amino acid residues His218-Val227, Pro264-Glu266, Gly161-Tyr163, Ala151-Pro156, Leu240-Asn242, Ser171 and Phe172, and perhaps other residues. There is almost no conservation of any binding site residues of BAFF relative to LT- α and TRAIL. The character of the putative binding site surface is mixed and includes positively and negatively charged polar residues, uncharged polar residues and hydrophobic residues.

In the two cases of known TNF ligand-receptor complexes, the receptors are observed to be elongated molecules that bind along the whole length of ligand cleft, making a large number of contacts with the TNF ligand. Two consecutive CRDs from the receptors make contacts with the TNF ligand that can be grouped into two patches, the top patch (patch A) and the bottom patch (patch B) (Hymowitz, S.G., et al., Mol Cell,

4(4): p. 563-71 (1999)). Patch A corresponds mostly to contacts with the third receptor CRD and patch B corresponds mostly to contacts with the second CRD. In all the TNF family members with known structures, the binding site cleft is particularly shallow.

In the case of BAFF, however, the presence of the unusually extended D-E loop results in the formation of a relatively deep, concave site in the lower part of the cleft (bottom of the pyramid) that is likely to constitute an important part of the receptor binding site. This site corresponds to the patch B described. The observed flexibility of the D-E loop may be a feature necessary for structural adaptation for receptor binding. Calculation of electrostatic potential surface shows that there is a predominance of negative charges on the surface of patch B (Figure 4). These charges are mostly localized on the "rim" of the cavity. The residues that are primarily responsible for these charges are Asp152, Asp222, Glu223, Glu254, Asp273 and Asp275. The rest of the putative receptor binding site has mostly neutral charges, with the exception of a small positively charged area due to residue Arg231. This arginine is conserved in CD40L (Arg207), where it was found to be an important contributor to binding and specificity (Singh, J., et al., Protein Sci, 7(5): p. 1124-35 (1998)). Arg231 of BAFF is positioned between patches A and B and makes contacts with the carbohydrate that is attached to residue Asn242.

The carbohydrate of BAFF appears to occupy part of the putative receptor binding site, near patch A. The carbohydrate would be in steric conflict with a

bound receptor having the size and shape of TNFR (tumor necrosis factor receptor) unless it adopts a limited set of conformations.

Understanding the interaction of BAFF with
5 its receptors at a structural level is of interest due to several unusual characteristics of its receptors. The extracellular domains of BCMA and BAFF-R are the smallest known of all TNF receptors: they have a size equivalent to one CRD. All the other TNF receptors
10 have at least two CRDs (such as TACI) and usually around four (such as TNFR and CD40). Although the N-terminal CRD of several receptors, such as TNFR and CD40, is not involved in direct contacts with the ligand, it appears to be necessary for ligand binding
15 and may have other important functions (Chan, K.F., et al., Immunity, 13(4): pp. 419-422 (2000)). Thus, it is of note that the smaller size of BAFF receptors is sufficient for the different aspects of the function of these molecules.

20 The existing structural information for other TNF family receptors is not sufficient for the modeling of the interactions of BAFF with its receptors. Analysis of the BCMA and TACI sequences suggests that these proteins may adopt the A1C2 motif (Thompson, J.S., et al., J Exp Med, 192(1): p. 129-35 (2000)).
25 This motif has been observed in the fourth CRD of TNFR, which is not involved in ligand-receptor contacts (Naismith, J.H., et al., Structure, 4(11): p. 1251-62 (1996)) and therefore cannot be used to model a BAFF-receptor complex. In addition, a satisfactory
30 alignment of the BAFF-R sequence with any of the other receptor sequences is not easy to generate; indicating

that the BAFF-R extracellular domain may adopt a
distantly related, or even new, folding motif relative
to other TNFR family members (Thompson et al., BAFF-R,
a Novel TNF Receptor That Specifically Interacts with
5 BAFF, Scienceexpress (Aug. 16, 2001), at
<http://www.scienceexpress.org>) and Thompson, J.S. et
al., Science (2001 Sep 14); 293 (5537): 2108-2111.

The fact that BAFF has an unusually long D-E
loop that facilitates the formation of a deep cleft may
10 be related to the unusually small size of two of the
BAFF receptors, BCMA and BAFF-R. The potential
increase in ligand-receptor number of contacts due to
the deep cleft may compensate for the reduction of
contacts due the absence of a second CDR. Thus, it is
15 likely that BCMA and BAFF-R bind to the cleft in a
manner analogous to the second CRD of TNFR.

Also, the observation of the negatively
charged region of the BAFF cleft is of interest because
the BAFF-R receptor appears to be a protein with an
20 unusually large number of positively charged residues,
particularly close to the N-terminus (Thompson et al.,
BAFF-R, a Novel TNF Receptor That Specifically
Interacts with BAFF, Scienceexpress (Aug. 16, 2001), at
<http://www.scienceexpress.org> and Thompson, J.S. et al.,
25 Science (2001 Sep 14); 293 (5537): 2108-2111). The
apparent presence of electrostatic complementarity may
suggest that the binding energy of BAFF-R-BAFF
association may have a significant electrostatic
component. Homology modeling of the closely related
30 APRIL molecule, as detailed in Example 2, indicates
that APRIL does not have a similar negatively-charged
area but, instead, it has an extensively positively

charged area (Figure 4). This observation is consistent with the fact that BAFF-R does not bind to APRIL (Thompson et al., BAFF-R, a Novel TNF Receptor That Specifically Interacts with BAFF, Scienceexpress (Aug. 16, 2001), at <http://www.sciencexpress.org> and Thompson, J.S. et al., Science (2001 Sep 14); 293 (5537): 2108-2111). In contrast, BCMA and TACI sequences indicate that these molecules contain mixed electrostatic charges, which is consistent with the fact that these molecules bind to both BAFF and APRIL. The above considerations suggest that predictions of specificity between different TNF family ligands and receptors based on electrostatic complementarities may be feasible in cases where sufficient structural information is available.

Table 1: Summary of Crystallographic Analysis**Diffraction data**

5		Native 1	Native 2 (X4A)	Hg ^s	Pt ^{ss}	Sm ^{sss}	Ir ^{ssss}
	Soaking conditions	-	-	0.1 mM, 24 hr.	1 mM, 24 hr.	2 mM, 24 hr.	1 mM, 24 hr.
10	Cell dimensions						
	a (Å)	122.12	121.72	122.62	122.72	122.61	122.75
	c (Å)	157.55	160.74	158.35	156.71	159.2	156.49
15	Space group	P6 ₅	P6 ₅	P6 ₅	P6 ₅	P6 ₅	P6 ₅
	Resolution (Å)	35-3.3 (3.42- 3.3)†	30-2.8 (2.9- 2.8)†	35-3.5	35-4.2	35-3.7	35-4.1
20	Unique reflections	20,072	31,743	16,814	9,127	14,417	10,227
	Completeness (%)	99.7 (99.6)†	95.6 (81.8)†	98.3	93.1	99.5	96.8
25	Average I/σ	19.1. (3.8)†	14.2 (2.9)†	12.6	10.8	14.3	8.1
	R _{merge} * (%)	9.0 (38.4)†	7.9 (26.7)†	12.4	15.3	14.9	16.5
30	# of sites	-	-	4	3	1	5
	R _{iso}	-	-	22.9	24.8	26.8	30.9

Table 1 ContinuedPhasing:

Figure of Merit: centric 0.73 accentric 0.67

5

Refinement: Resolution range used ($F > 2\sigma$) (Å) 30-2.8

R-factor (%) 21.7

R-free (%) 25.0

10 Model:

No. of non-H atoms 6,858
 No. of protein residues 864
 Contents of asymmetric unit 2 BAPF trimers
 Average B-factor, main chain (Å²) 37.4
 15 Average B-factor, side chain (Å²) 45.2

Stereochemistry:

20 RMS deviations

Bond lengths (Å) 0.008

Bond angles (Å) 1.44

Dihedrals (°) 26.6

25 Improper (°) 0.82

30 (\$) Hg = (C₂H₅HgO)HPO₂

(\$\$) Pt = K₂Pt(NO₂)₄

(\$\$\$) Sm = SmCl₃

(\$\$\$\$) Ir = (NH₄)IrCl₆

(*) $R_{\text{merge}} = \frac{\sum_h \sum_i |I_{hi} - \bar{I}_h|}{\sum_h \bar{I}_h}$

35 (†) Values for the highest resolution shell given in parenthesis

EXAMPLE 2 HOMOLOGY MODEL STRUCTURE OF APRIL

According to Martin, A.C., et al., Proteins Suppl., 1: p. 14-28 (1997) and Sanchez, R. and A. Sali, Proteins, Suppl(1): p. 50-8 (1997), sequence homology
5 of 30% or higher is sufficient for the generation of homology models of significant level of accuracy. APRIL has 34% sequence identity with BAFF (Figure 3a). Therefore, a homology model of the TNF-homologous domain of a human APRIL trimer was built by using the
10 crystal structure of BAFF as a template. The homology model structure coordinates of human APRIL are shown in Figure 10.

A sequence alignment of APRIL and BAFF TNF-homologous domain sequences was generated with the
15 program QUANTA and refined manually (Figure 3a). The alignment and the crystal structure of BAFF were used for the generation of a homology model of human APRIL (residues 114-250 (see Figure 9c)) with the program MODELER (Sali, A. and T.L. Blundell, J Mol Biol,
20 212(2): p. 403-28 (1990)). This is an automated program that used spatial restraints such as inter-C α distances and dihedral angles from the BAFF structure and generated the model by minimizing the violations of the restraints. A trimer of APRIL was generated from
25 the monomer by applying the same transformations that relate the three BAFF monomers.

Based on the modeling, the overall structures of APRIL and BAFF are predicted to be very similar. The only major differences in APRIL, relative to BAFF,
30 is a 6-residue deletion in the D-E loop, a 2-residue insertion in the top of the E-F loop and a one residue

deletion in the A-A'' loop of APRIL. The aromatic residues that are involved in the formation of the trimerization interface are conserved, except for Phe194 of BAFF that is a leucine in APRIL. There are
5 no significant steric conflicts between monomers of an APRIL trimer.

The shorter length of the D-E loop of APRIL is a significant structural difference that is likely to play a role in differences of specificity between
10 APRIL and BAFF. As a consequence of the shorter loop size, the putative receptor binding site of APRIL for one or more of its receptors is much more shallow. The other structural differences that may account for specificity differences may be the different surface
15 amino acid side chains. Most of the putative receptor binding site residues are different in APRIL when compared to BAFF except for those in a contiguous region that is located near patch A, which consists mostly of residues of the E strand. The putative
20 receptor binding site residues of APRIL for one or more of its receptors include Gly188, Arg189, Gln190, Glu191, Pro230, Arg231, Ala232, Ser131, Asp132, Val133, Pro122, Ile123, Asn124, Ala125, Thr126, Ser127, Arg206, Ala207, Tyr208, Ala141 and Leu142, and possibly other
25 residues. Calculation of the electrostatic potential surface of an APRIL trimer indicates that there is a predominance of positive charges on the putative receptor binding site (Figure 4). This is opposite to the predominance of negative charges in BAFF. The
30 dominant feature of positive potential is associated with Arg195 that is positioned in the middle of the binding site and is conserved in BAFF (Arg231).

Equivalents

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The foregoing
5 embodiments are therefore to be considered in all respects illustrative of, rather than limiting on, the invention disclosed herein. All changes which come within the meaning and range of equivalency of the claims are intended to be embraced therein.

CLAIMS

What is claimed is:

1. A crystallizable composition comprising a BAFF polypeptide.
2. The crystallizable composition according to claim 1, wherein said BAFF polypeptide is a polypeptide comprising the extracellular domain of BAFF.
3. The crystallizable composition according to claim 1, wherein said BAFF polypeptide comprises a polypeptide consisting of amino acid 136 to amino acid 285 of human BAFF (SEQ ID NO: 2).
4. A crystallizable composition comprising a trimer of BAFF polypeptides.
5. A crystal comprising a BAFF polypeptide.
6. The crystal according to claim 5, wherein said BAFF polypeptide comprises the extracellular domain of BAFF.
7. The crystal according to claim 5, wherein said BAFF polypeptide comprises a polypeptide consisting of amino acid 136 to amino acid 285 of human BAFF (SEQ ID NO: 2).
8. A crystal comprising a trimer of BAFF polypeptides.
9. A computer for producing a three-dimensional representation of:

a) a molecule or a molecular complex defined by the structure coordinates of the BAFF amino acids set forth in Figure 8, or

b) a homologue of said molecule or molecular complex, wherein said homologue has a root mean square deviation from the backbone atoms of said amino acids between 0.00Å and 1.50Å; and wherein said computer comprises:

(i) a machine-readable data storage medium comprising a data storage material encoded with machine-readable data, wherein said data comprises the structure coordinates of the BAFF amino acids set forth in Figure 8; and

(ii) instructions for processing said machine-readable data into said three-dimensional representation.

10. The computer for producing a three-dimensional representation according to claim 9, wherein said homologue has a root mean square deviation from the backbone atoms of said amino acids of between 0.00Å and 1.00Å.

11. The computer for producing a three-dimensional representation according to claim 9, wherein said homologue has a root mean square deviation from the backbone atoms of said amino acids of between 0.00Å and 0.50Å.

12. A computer for determining the structure coordinates corresponding to X-ray diffraction data obtained from a molecule or molecular complex, wherein said computer comprises:

a) a machine-readable data storage medium comprising a data storage material encoded with machine-readable data, wherein said data comprises the structure coordinates of BAFF according to Figure 8;

b) a machine-readable data storage medium comprising a data storage material encoded with machine-readable data, wherein said data comprises X-ray diffraction data obtained from said molecule or molecular complex; and

c) instructions for performing a Fourier transform of the machine readable data of (a) and for processing said machine readable data of (b) into structure coordinates.

13. A computer for producing a three-dimensional representation of:

a) a molecule or molecular complex comprising a first binding site defined by structure coordinates of a plurality of BAFF amino acids selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172 according to Figure 8; or

b) a homologue of said molecule or molecular complex, wherein said homologue comprises a second binding site that has a root mean square deviation from the backbone atoms of a plurality of BAFF amino acids between 0.00Å and 1.50Å; wherein said computer comprises:

(i) a machine-readable data storage medium comprising a data storage material encoded with machine-readable data, wherein said data comprises the

structure coordinates of said plurality of BAFF amino acids selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172 according to Figure 8; and

(ii) instructions for processing said machine-readable data into said three-dimensional representation.

14. The computer for producing a three-dimensional representation according to claim 13, wherein said homologue comprises a second binding site that has a root mean square deviation from the backbone atoms of said amino acids of between 0.00Å and 1.00Å.

15. The computer for producing a three-dimensional representation according to claim 13, wherein said homologue comprises a second binding site that has a root mean square deviation from the backbone atoms of said amino acids of between 0.00Å and 0.50Å.

16. The computer according to any one of claims 13-15, wherein said first binding site is a binding site of BAFF for one or more receptors of BAFF.

17. The computer according to any one of claims 13-15, wherein said second binding site is a binding site of BAFF for one or more receptors of BAFF.

18. A computer for producing a three-dimensional representation of:

a) a molecule or molecular complex comprising a first binding site defined by structure coordinates of at least four BAFF amino acids selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172 according to Figure 8; or

b) a homologue of said molecule or molecular complex, wherein said homologue comprises a second binding site that has a root mean square deviation from the backbone atoms of said at least four BAFF amino acids of between 0.00Å and 1.50Å; wherein said computer comprises:

(i) a machine-readable data storage medium comprising a data storage material encoded with machine-readable data, wherein said data comprises the structure coordinates of said at least four BAFF amino acids selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172 according to Figure 8; and

(ii) instructions for processing said machine-readable data into said three-dimensional representation.

19. The computer for producing a three-dimensional representation according to claim 18, wherein said homologue comprises a second binding site that has a root mean square deviation from the backbone atoms of said amino acids of between 0.00Å and 1.00Å.

20. The computer for producing a three-dimensional representation according to claim 18, wherein said homologue comprises a second binding site that has a root mean square deviation from the backbone atoms of said amino acids of between 0.00Å and 0.50Å.

21. The computer according to any one of claims 18-20, wherein said first binding site is a binding site of BAFF for one or more receptors of BAFF.

22. The computer according to any one of claims 18-20, wherein said second binding site is a binding site of BAFF for one or more receptors of BAFF.

23. The computer according to any one of claims 9-22, further comprising a display for displaying said structure coordinates.

24. A computer for determining at least a portion of the structure coordinates corresponding to an X-ray diffraction pattern of a molecule or a molecular complex whose structure is unknown, wherein said computer comprises:

a) a machine-readable data storage medium comprising a data storage material encoded with machine-readable data, wherein said data comprises at least a portion of the structure coordinates according to Figure 8;

b) a machine-readable data storage medium comprising a data storage material encoded with machine-readable data, wherein said data comprises an X-ray diffraction pattern of said molecule or molecular complex;

c) a working memory for storing instructions for processing said machine-readable data of a) and b);

d) a central processing unit coupled to said working memory and to said machine-readable data of a) and b) for performing a Fourier transform of the machine readable data of (a) and for processing said machine readable data of (b) into structure coordinates; and

e) a display coupled to said central processing unit for displaying said structure coordinates of said molecule of molecular complex.

25. The method according to claim 24, wherein said molecule or molecular complex whose structure is unknown comprises an APRIL polypeptide.

26. The method according to claim 25, wherein said APRIL polypeptide comprises the extracellular domain of APRIL.

27. The method according to claim 24, wherein said molecule or molecular complex whose structure is unknown comprises a trimer of APRIL polypeptides.

28. A method for evaluating the potential of a chemical entity to associate with:

a) a molecule or molecular complex defined by the structure coordinates of the BAFF amino acids set forth in Figure 8; or

b) a homologue of said molecule or molecular complex having a root mean square deviation

from the backbone atoms of said amino acids between 0.00Å and 1.50Å;

comprising the steps of:

(i) employing computational means to perform a fitting operation between said chemical entity and the molecule or molecular complex or said homologue of said molecule or molecular complex; and

(ii) analyzing the results of said fitting operation to quantify the association between said chemical entity and said molecule or molecular complex or said homologue of said molecule or molecular complex.

29. The method according to claim 28, wherein said homologue has a root mean square deviation from the backbone atoms of said amino acids between 0.00Å and 1.00Å.

30. The method according to claim 28, wherein said homologue has a root mean square deviation from the backbone atoms of said amino acids between 0.00Å and 0.50Å.

31. A method for evaluating the potential of a chemical entity to associate with:

a) a molecule or molecular complex comprising a first binding site defined by a plurality of BAFF amino acids selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172 according to Figure 8; or

b) a homologue of said molecule or molecular complex comprising a second binding site having a root mean square deviation from the backbone atoms of a plurality of BAFF amino acids between -0.00\AA and 1.50\AA ;

comprising the steps of:

(i) employing computational means to perform a fitting operation between said chemical entity and said first binding site or said second binding site; and

(ii) analyzing the results of said fitting operation to quantify the association between said chemical entity and said first binding site or said second binding site.

32. The method according to claim 31, wherein said homologue has a root mean square deviation from the backbone atoms of said amino acids between 0.00\AA and 1.00\AA .

33. The method according to claim 31, wherein said homologue has a root mean square deviation from the backbone atoms of said amino acids between 0.00\AA and 0.50\AA .

34. The method according to any one of claims 31-33, wherein said first binding site is a binding site of BAFF for one or more receptors of BAFF.

35. The method according to any one of claims 31-33, wherein said second binding site is a binding site of BAFF for one or more receptors of BAFF.

36. A method for evaluating the potential of a chemical entity to associate with:

a) a molecule or molecular complex comprising a first binding site defined by at least four BAFF amino acids selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172 according to Figure 8; or

b) a homologue of said molecule or molecular complex comprising a second binding site having a root mean square deviation from the backbone atoms of said at least four BAFF amino acids between 0.00Å and 1.50Å;

comprising the steps of:

(i) employing computational means to perform a fitting operation between said chemical entity and said first binding site or said second binding site; and

(ii) analyzing the results of said fitting operation to quantify the association between said chemical entity and said first binding site or said second binding site.

37. The method according to claim 36, wherein said homologue has a root mean square deviation from the backbone atoms of said amino acids between 0.00Å and 1.00Å.

38. The method according to claim 36, wherein said homologue has a root mean square deviation

from the backbone atoms of said amino acids between 0.00Å and 0.50Å.

39. The method according to any one of claims 36-38, wherein said first binding site is a binding site of BAFF for one or more receptors of BAFF.

40. The method according to any one of claims 36-38, wherein said second binding site is a binding site of BAFF for one or more receptors of BAFF.

41. A chemical entity evaluated by the method according to any one of claims 28-40.

42. A compound assembled from one or more of a chemical entity according to claim 41.

43. A method for identifying a potential antagonist of BAFF comprising the steps of:

a) using structure coordinates of the amino acids of BAFF according to Figure 8 ± a root mean square deviation from the backbone atoms of said amino acids between 0.00Å and 1.50Å, to generate a three-dimensional structure of a molecule or a molecular complex comprising a binding site;

b) employing said three-dimensional structure to design or select said potential antagonist;

c) synthesizing said potential antagonist;
and

d) contacting said potential antagonist with BAFF to determine the ability of said potential antagonist to interact with BAFF.

44. The method according to claim 43, wherein said root mean square deviation from the backbone atoms of said amino acids is between 0.00Å and 1.00Å.

45. The method according to claim 43, wherein said root mean square deviation from the backbone atoms of said amino acids is between 0.00Å and 0.50Å.

46. The method according to claim 43, wherein said binding site is a binding site of BAFF for one or more of the receptors of BAFF.

47. A method for identifying a potential antagonist of BAFF comprising the steps of:

- a) using the structure coordinates of a plurality of BAFF amino-acids selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172 according to Figure 8 or \pm a root mean square deviation from the backbone atoms of said plurality of BAFF amino acids between 0.00Å and 1.50Å, to generate a three-dimensional structure of a molecule or a molecular complex comprising a binding site;
 - b) employing said three-dimensional structure to design or select said potential antagonist;
 - c) synthesizing said potential antagonist;
- and

d) contacting said potential antagonist with BAFF to determine the ability of said potential antagonist to interact with BAFF.

48. The method according to claim 47, wherein said root mean square deviation from the backbone atoms of said amino acids is between 0.00Å and 1.00Å.

49. The method according to claim 47, wherein said root mean square deviation from the backbone atoms of said amino acids is between 0.00Å and 0.50Å.

50. The method according to claim 47, wherein said binding site is a binding site of BAFF for one or more of the receptors of BAFF.

51. A method for identifying a potential antagonist of BAFF comprising the steps of:

- a) using the structure coordinates of at least four BAFF amino acids selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172 according to Figure 8 or \pm a root mean square deviation from the backbone atoms of said at least four BAFF amino acids between 0.00Å and 1.50Å, to generate a three-dimensional structure of a molecule or a molecular complex comprising a binding site;
- b), employing said three-dimensional structure to design or select said potential antagonist;

c) synthesizing said potential antagonist;
and

d) contacting said potential antagonist with BAFF to determine the ability of said potential antagonist to interact with BAFF.

52. The method according to claim 51, wherein said root mean square deviation from the backbone atoms of said at least four BAFF amino acids is between 0.00Å and 1.00Å.

53. The method according to claim 51, wherein said root mean square deviation from the backbone atoms of said at least four BAFF amino acids is between 0.00Å and 0.50Å.

54. The method according to claim 51, wherein said binding site is a binding site of BAFF for one or more of the BAFF receptors.

55. The method according to any one of claims 43-54, further comprising the step of:

(e) determining whether said potential antagonist interrupts BAFF and a receptor of BAFF interaction.

56. A potential antagonist of BAFF identified by the method according to any one of claims 43-55.

57. A method for evaluating the potential of a variant of an antagonist of BAFF to associate with:

a) a molecule or a molecular complex defined by the structure coordinates of the BAFF amino acids, set forth in Figure 8; or

b) a homologue of said molecule or molecular complex having a root mean square deviation from the backbone atoms of said amino acids between 0.00Å and 1.50Å;

comprising the steps of:

(i) employing computational means to perform a fitting operation between the variant and said molecule or molecular complex; and

(ii) analyzing the results of said fitting operation to quantify the association between said variant and said molecule or molecular complex.

58. The method according to claim 57, wherein said homologue has a root mean square deviation from the backbone atoms of said amino acids of between 0.00Å and 1.00Å.

59. The method according to claim 57, wherein said homologue has a root mean square deviation from the backbone atoms of said amino acids of between 0.00Å and 0.50Å.

60. A method for evaluating the potential of a variant of an antagonist of BAFF to associate with:

a) a first binding site of a molecule or a molecular complex defined by structure coordinates of a plurality of BAFF amino acids selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172, set forth in Figure 8; or

b) a homologue of said molecule or molecular complex comprising a second binding site

having a root mean square deviation from the backbone atoms of a plurality of BAFF amino acids between 0.00Å and 1.50Å;

comprising the steps of:

(i) employing computational means to perform a fitting operation between the variant and said first binding site or said second binding site; and

(ii) analyzing the results of said fitting operation to quantify the association between said variant and said first binding site or said second binding site.

61. The method according to claim 60, wherein said homologue has a root mean square deviation from the backbone atoms of a plurality of BAFF amino acids of between 0.00Å and 1.00Å.

62. The method according to claim 60, wherein said homologue has a root mean square deviation from the backbone atoms of a plurality of BAFF amino acids of between 0.00Å and 0.50Å.

63. The method according to any one of claims 60-62, wherein said first binding site is a binding site of BAFF for one or more receptors of BAFF.

64. The method according to any one of claims 60-62, wherein said second binding site is a binding site of BAFF for one or more receptors of BAFF.

65. A method for evaluating the potential of a variant of an antagonist of BAFF to associate with:

a) a first binding site of a molecule or a molecular complex defined by structure coordinates of at least four BAFF amino acids selected from the group consisting of His218, Val219, Phe220, Gly221, Asp222, Glu223, Leu224, Ser225, Leu226, Val227, Pro264, Arg265, Glu266, Gly161, Ser162, Tyr163, Ala151, Asp152, Ser153, Glu154, Thr155, Pro156, Leu240, Pro241, Asn242, Ser171 and Phe172, set forth in Figure 8; or

b) a homologue of said molecule or molecular complex comprising a second binding site having a root mean square deviation from the backbone atoms of said at least four BAFF amino acids between 0.00Å and 1.50Å; comprising the steps of:

(i) employing computational means to perform a fitting operation between the variant and said first binding site or said second binding site; and

(ii) analyzing the results of said fitting operation to quantify the association between said variant and said first binding site or said second binding site.

66. The method according to claim 65, wherein said homologue has a root mean square deviation from the backbone atoms of said at least four BAFF amino acids of between 0.00Å and 1.00Å.

67. The method according to claim 65, wherein said homologue has a root mean square deviation from the backbone atoms of said at least four BAFF amino acids of between 0.00Å and 0.50Å.

68. The method according to any one of claims 65-67, wherein said first binding site is a binding site of BAFF for one or more receptors of BAFF.

69. The method according to any one of claims 65-67, wherein said second binding site is a binding site of BAFF for one or more receptors of BAFF.

70. A variant of an antagonist of BAFF identified by the method according to any one of claims 57-69.

71. A pharmaceutical composition comprising a pharmaceutically suitable carrier and a chemical entity according to claim 41 or a compound according to claim 42, a potential antagonist of BAFF according to claim 56, or a variant of an antagonist of BAFF according to claim 70.

72. A method of treating a condition associated with inappropriate or abnormal BAFF induced activation in a subject, comprising the step of administering an effective amount of a pharmaceutical composition according to claim 71 to the subject.

73. A method of preventing a condition associated with inappropriate or abnormal BAFF induced activation in a subject, comprising the step of administering an effective amount of a pharmaceutical composition according to claim 71 to the subject.

74. The method according to any one of claims 72-73, wherein said subject is a primate.

75. The method according to claim 74, wherein said primate is a human.

76. The method according to any one of claims 72-73, wherein the condition is an autoimmune disease.

77. The method according to any one of claims 72-73, wherein the condition is an allergy.

78. The method according to any one of claims 72-73, wherein the condition is an inhibitor response to a therapeutic agent.

79. The method according to any one of claims 72-73, wherein the condition is rejection of a donor organ or tissue.

80. The method according to any one of claims 72-73, wherein the condition is an unwanted inflammatory response.

81. The method according to any one of claims 72-73, wherein the condition is an unwanted immune response.

82. The method according to any one of claims 72-73, wherein the condition is selected from the group consisting of: systemic lupus erythematosus, lupus neuritis, asthma, chronic obstructive pulmonary disease, bronchitis, emphysema, multiple sclerosis, uveitis, Alzheimer's disease, traumatic spinal cord injury, stroke, atherosclerosis, coronary restenosis, ischemic congestive heart failure, cirrhosis, hepatitis C, diabetic nephropathy, glomerulonephritis,

osteoarthritis, rheumatoid arthritis, psoriasis, atopic dermatitis, systemic sclerosis, radiation-induced fibrosis, Crohn's disease, ulcerative colitis, multiple myeloma and cachexia.

83. The method according to any one of claims 72-73, wherein said condition is systemic lupus erythematosus.

84. A method of utilizing the structure coordinates of BAFF to obtain a homology model structure of at least a portion of a molecule whose structure is unknown and at least a portion of whose structure is similar to the structure of BAFF, comprising the step of:

applying at least a portion of the structure coordinates set forth in Figure 8 to generate a three-dimensional molecular model of at least a portion of the molecule whose structure is unknown to generate a homology model structure of at least a portion of that molecule.

85. The method according to claim 84, wherein said molecule whose structure is unknown comprises an APRIL polypeptide.

86. The method according to claim 85, wherein said APRIL polypeptide comprises the extracellular domain of APRIL.

87. The method according to claim 84, wherein said molecule whose structure is unknown comprises a trimer of APRIL polypeptides.

88. A computer for producing a three-dimensional representation of:

a) a homology model structure of at least a portion of a molecule whose structure is unknown and at least a portion of whose structure is similar to the structure of BAFF, wherein said homology model structure is defined by at least a portion of the homology model structure coordinates of the APRIL amino acids set forth in Figure 10; wherein said computer comprises:

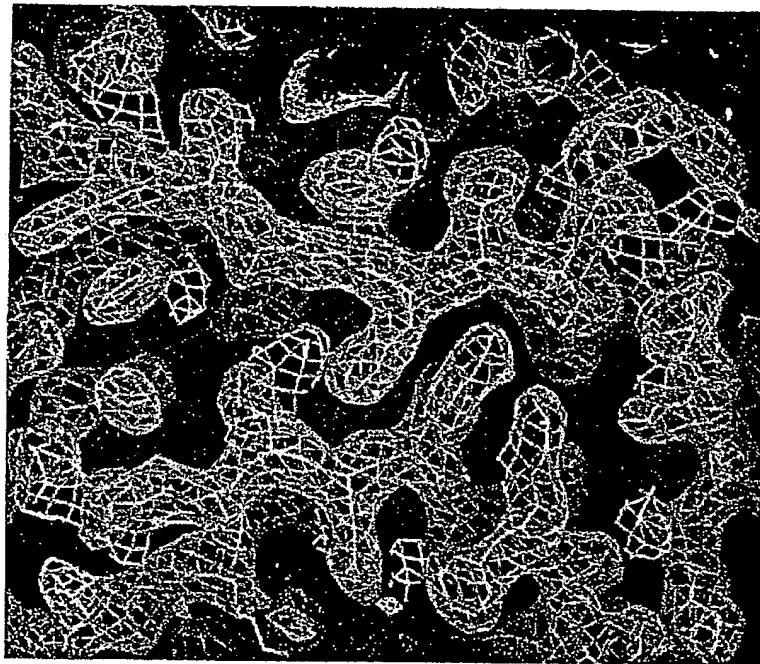
(i) a machine-readable data storage medium comprising a data storage material encoded with machine-readable data, wherein said data comprises at least a portion of the structure coordinates of all of the APRIL amino acids set forth in Figure 10; and

(ii) instructions for processing said machine-readable data into said three-dimensional representation

89. The computer according to claim 88, further comprising a display for displaying said homology model structure coordinates.

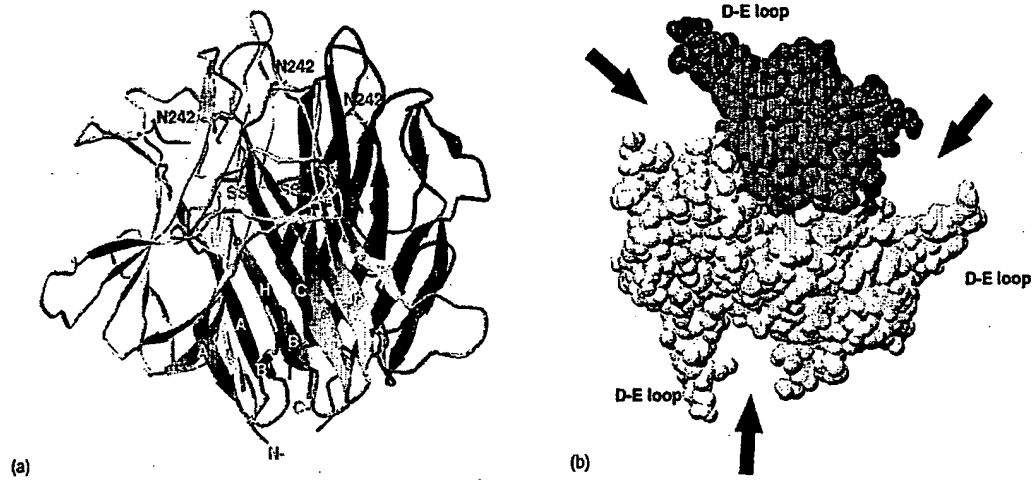
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Figure 1



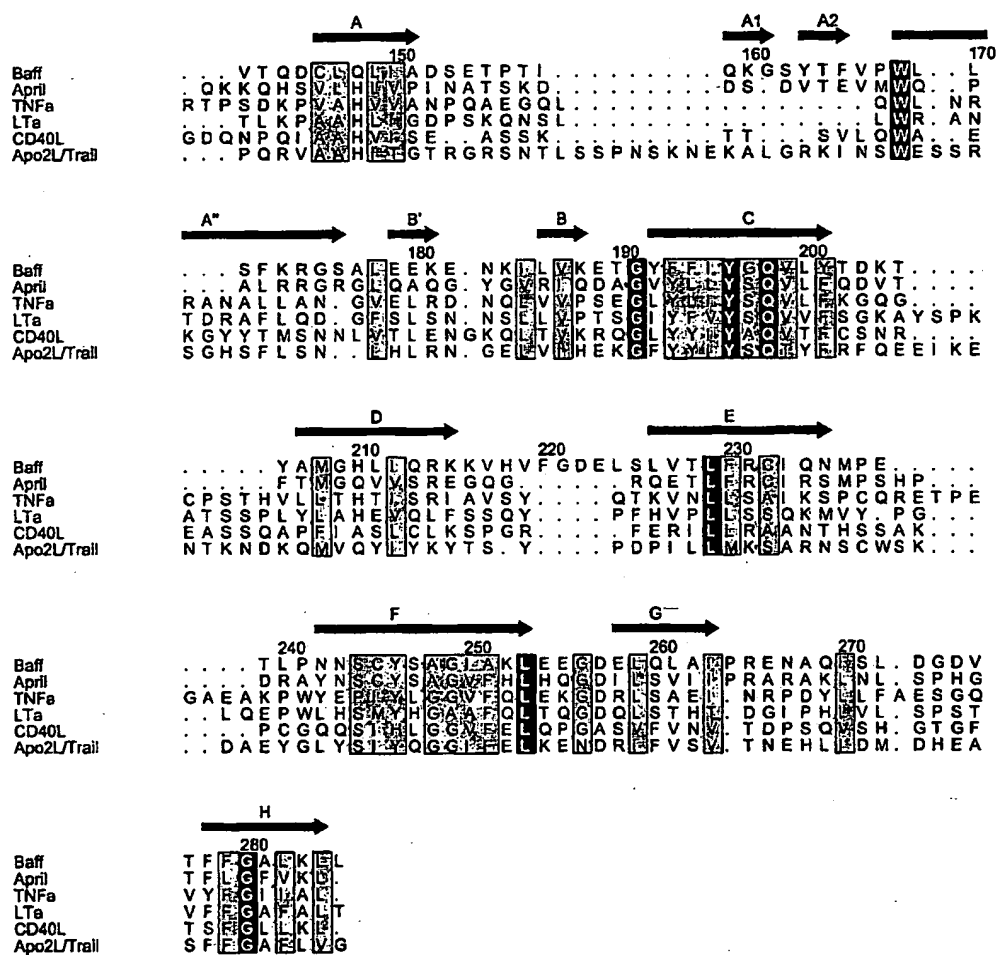
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Figure 2



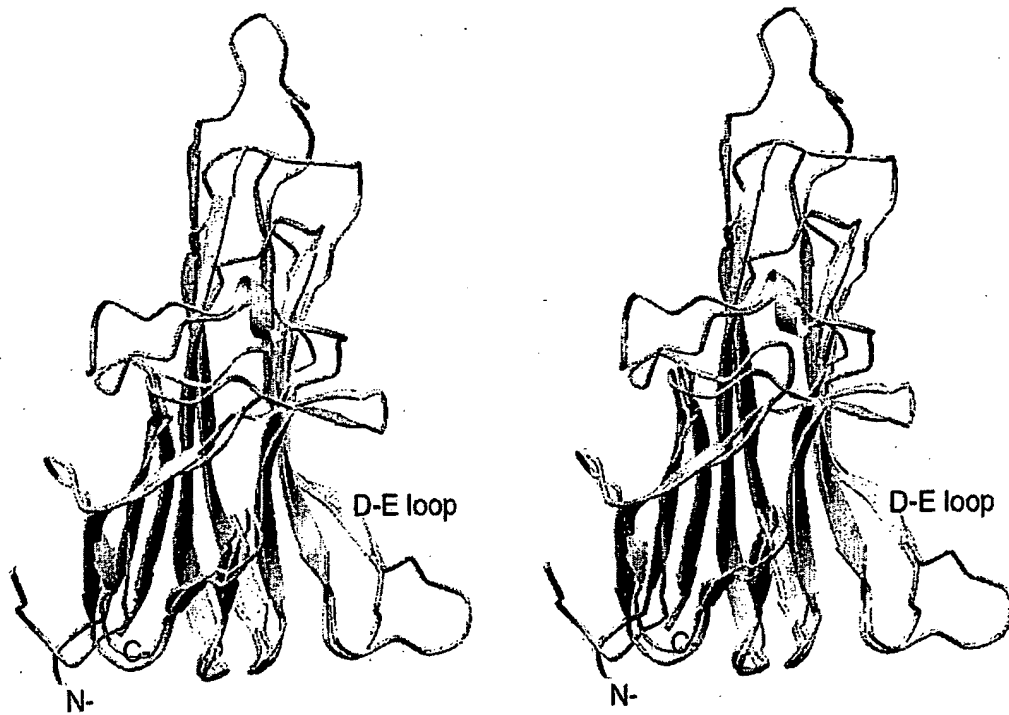
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Figure 3a



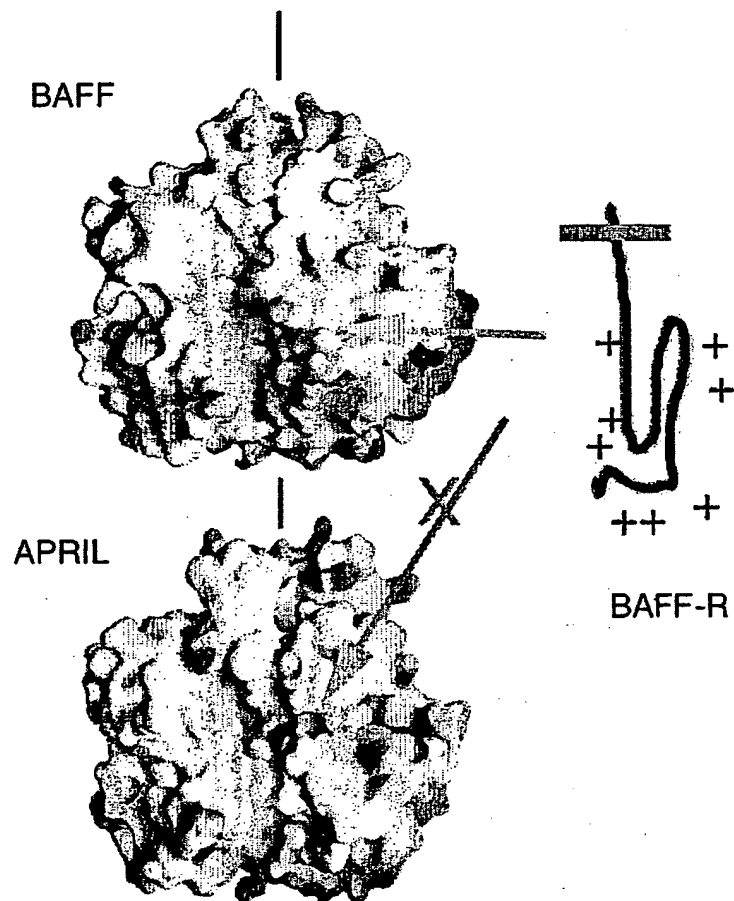
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Figure 3b



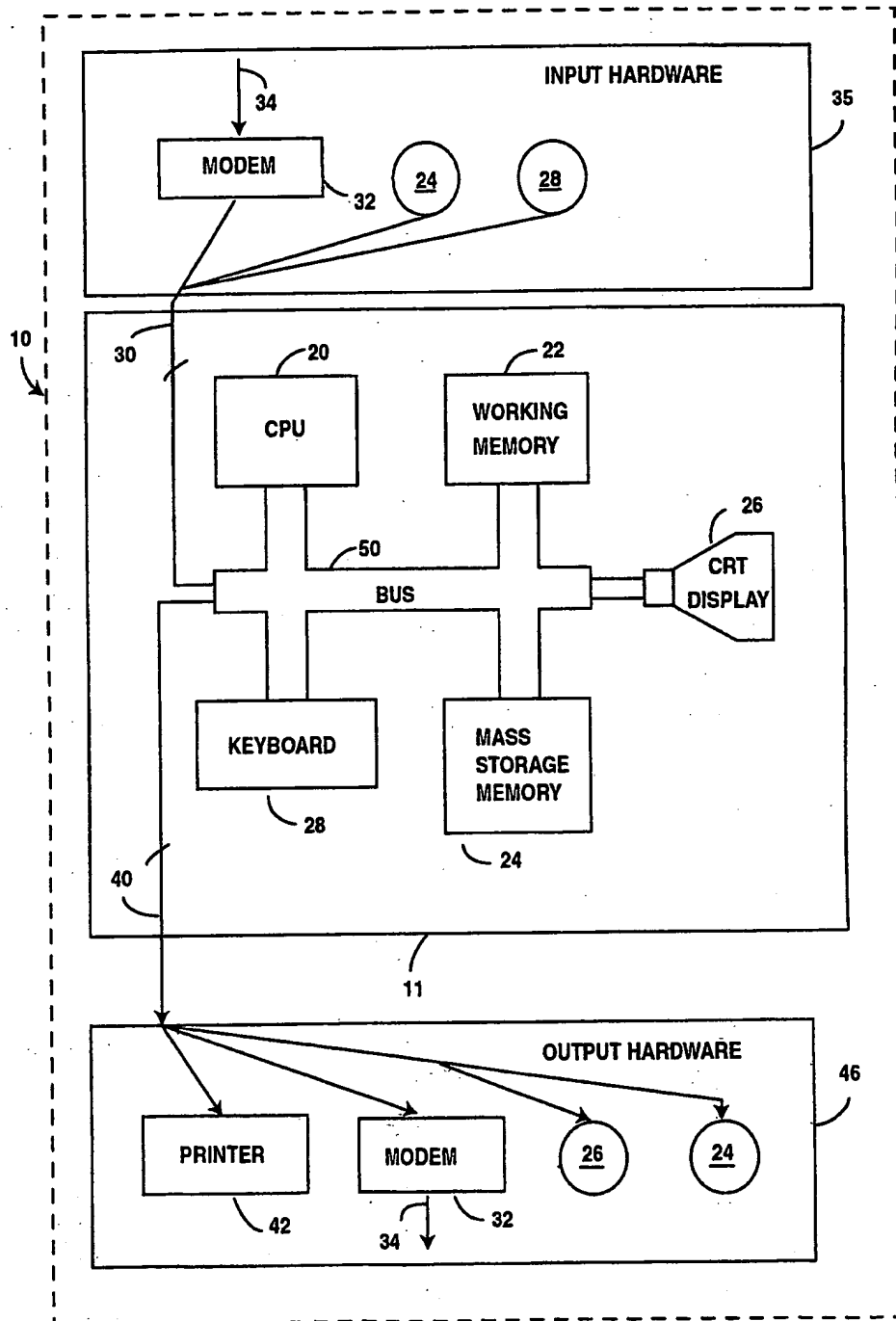
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Figure 4



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Figure 5



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Figure 6

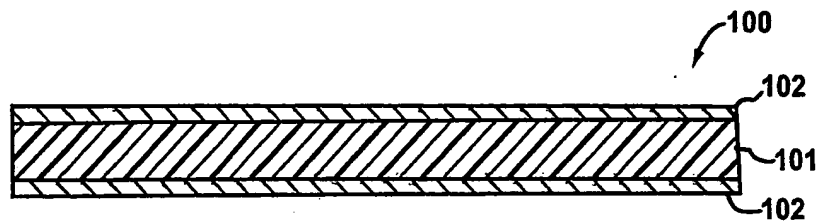
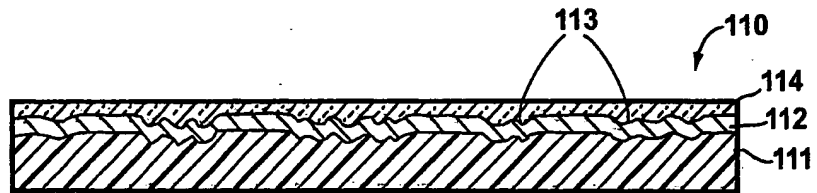


Figure 7



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Figure 8-1

FIGURE 8

	Atom	Type	Resid	#	X	Y	Z	Occ	B	Mol	
	ATOM	1	CB	VAL A 142	-37.661	35.571	55.628	1.00	53.67	A	C
	ATOM	2	CG1	VAL A 142	-36.165	35.793	55.754	1.00	53.67	A	C
	ATOM	3	CG2	VAL A 142	-38.132	34.495	56.617	1.00	53.67	A	C
	ATOM	4	C	VAL A 142	-39.871	36.693	55.479	1.00	64.93	A	C
	ATOM	5	O	VAL A 142	-40.146	36.310	54.347	1.00	64.93	A	O
	ATOM	6	N	VAL A 142	-38.283	37.322	57.310	1.00	64.93	A	N
	ATOM	7	CA	VAL A 142	-38.416	36.897	55.886	1.00	64.93	A	C
	ATOM	8	N	THR A 143	-40.797	36.956	56.397	1.00	71.39	A	N
	ATOM	9	CA	THR A 143	-42.208	36.763	56.113	1.00	71.39	A	C
	ATOM	10	CB	THR A 143	-42.877	35.923	57.204	1.00	106.04	A	C
	ATOM	11	OG1	THR A 143	-42.589	36.496	58.483	1.00	106.04	A	O
	ATOM	12	CG2	THR A 143	-42.372	34.494	57.159	1.00	106.04	A	C
	ATOM	13	C	THR A 143	-43.022	38.033	55.930	1.00	71.39	A	C
	ATOM	14	O	THR A 143	-44.168	37.960	55.502	1.00	71.39	A	O
	ATOM	15	N	GLN A 144	-42.460	39.189	56.261	1.00	40.89	A	N
	ATOM	16	CA	GLN A 144	-43.187	40.454	56.093	1.00	31.51	A	C
	ATOM	17	CB	GLN A 144	-43.386	40.714	54.594	1.00	76.84	A	C
	ATOM	18	CG	GLN A 144	-43.438	42.177	54.203	1.00	76.84	A	C
	ATOM	19	CD	GLN A 144	-43.442	42.396	52.694	1.00	76.84	A	C
	ATOM	20	OE1	GLN A 144	-43.251	43.511	52.225	1.00	24.05	A	O
	ATOM	21	NE2	GLN A 144	-43.668	41.337	51.934	1.00	24.05	A	N
	ATOM	22	C	GLN A 144	-44.555	40.466	56.820	1.00	28.70	A	C
	ATOM	23	O	GLN A 144	-45.599	40.246	56.202	1.00	23.78	A	O
	ATOM	24	N	ASP A 145	-44.555	40.723	58.128	1.00	40.98	A	N
	ATOM	25	CA	ASP A 145	-45.806	40.739	58.890	1.00	40.69	A	C
	ATOM	26	CB	ASP A 145	-45.542	40.962	60.379	1.00	30.05	A	C
	ATOM	27	CG	ASP A 145	-44.514	40.012	60.951	1.00	47.96	A	C
	ATOM	28	OD1	ASP A 145	-44.565	38.810	60.627	1.00	47.96	A	O
	ATOM	29	OD2	ASP A 145	-43.661	40.472	61.744	1.00	47.96	A	O
	ATOM	30	C	ASP A 145	-46.776	41.824	58.426	1.00	38.73	A	C
	ATOM	31	O	ASP A 145	-46.375	42.808	57.797	1.00	37.70	A	O
	ATOM	32	N	CYS A 146	-48.052	41.642	58.753	1.00	23.79	A	N
	ATOM	33	CA	CYS A 146	-49.079	42.616	58.407	1.00	23.36	A	C
	ATOM	34	CB	CYS A 146	-49.316	42.648	56.896	1.00	22.63	A	C
	ATOM	35	SG	CYS A 146	-49.639	41.052	56.158	1.00	33.95	A	S
	ATOM	36	C	CYS A 146	-50.377	42.291	59.126	1.00	24.73	A	C
	ATOM	37	O	CYS A 146	-50.666	41.128	59.407	1.00	22.65	A	O
	ATOM	38	N	LEU A 147	-51.153	43.321	59.436	1.00	19.27	A	N
	ATOM	39	CA	LEU A 147	-52.421	43.130	60.117	1.00	19.27	A	C
	ATOM	40	CB	LEU A 147	-52.263	43.434	61.595	1.00	15.29	A	C
	ATOM	41	CG	LEU A 147	-53.534	43.424	62.433	1.00	15.29	A	C
	ATOM	42	CD1	LEU A 147	-53.144	43.166	63.873	1.00	19.82	A	C
	ATOM	43	CD2	LEU A 147	-54.303	44.739	62.276	1.00	19.82	A	C
	ATOM	44	C	LEU A 147	-53.448	44.055	59.485	1.00	19.27	A	C
	ATOM	45	O	LEU A 147	-53.122	45.185	59.123	1.00	20.43	A	O
	ATOM	46	N	GLN A 148	-54.685	43.580	59.360	1.00	21.50	A	N
	ATOM	47	CA	GLN A 148	-55.730	44.361	58.731	1.00	21.52	A	C
	ATOM	48	CB	GLN A 148	-55.974	43.827	57.313	1.00	18.88	A	C
	ATOM	49	CG	GLN A 148	-56.990	44.599	56.482	1.00	26.34	A	C
	ATOM	50	CD	GLN A 148	-56.992	44.162	55.021	1.00	26.34	A	C
	ATOM	51	OE1	GLN A 148	-56.319	44.757	54.174	1.00	26.34	A	O
	ATOM	52	NE2	GLN A 148	-57.736	43.107	54.724	1.00	26.34	A	N
	ATOM	53	C	GLN A 148	-57.018	44.345	59.521	1.00	22.64	A	C
	ATOM	54	O	GLN A 148	-57.434	43.313	60.033	1.00	23.15	A	O
	ATOM	55	N	LEU A 149	-57.647	45.505	59.613	1.00	14.84	A	N
	ATOM	56	CA	LEU A 149	-58.910	45.653	60.316	1.00	13.57	A	C
	ATOM	57	CB	LEU A 149	-58.790	46.750	61.387	1.00	15.79	A	C
	ATOM	58	CG	LEU A 149	-58.271	46.465	62.808	1.00	15.79	A	C
	ATOM	59	CD1	LEU A 149	-57.622	45.102	62.903	1.00	15.79	A	C
	ATOM	60	CD2	LEU A 149	-57.292	47.556	63.197	1.00	3.09	A	C
	ATOM	61	C	LEU A 149	-59.997	46.047	59.315	1.00	15.22	A	C
	ATOM	62	O	LEU A 149	-59.727	46.748	58.338	1.00	15.61	A	O
	ATOM	63	N	ILE A 150	-61.223	45.595	59.552	1.00	25.38	A	N

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Figure 8-2

ATOM	64	CA	ILE	A	150	-62.343	45.951	58.684	1.00	24.25	A	C
ATOM	65	CB	ILE	A	150	-62.794	44.767	57.827	1.00	22.44	A	C
ATOM	66	CG2	ILE	A	150	-61.630	44.287	56.976	1.00	22.44	A	C
ATOM	67	CG1	ILE	A	150	-63.316	43.643	58.721	1.00	26.56	A	C
ATOM	68	CD1	ILE	A	150	-63.647	42.383	57.969	1.00	26.56	A	C
ATOM	69	C	ILE	A	150	-63.496	46.414	59.562	1.00	28.35	A	C
ATOM	70	O	ILE	A	150	-63.675	45.924	60.678	1.00	29.40	A	O
ATOM	71	N	ALA	A	151	-64.270	47.368	59.064	1.00	29.86	A	N
ATOM	72	CA	ALA	A	151	-65.386	47.908	59.829	1.00	29.86	A	C
ATOM	73	CB	ALA	A	151	-66.145	48.933	58.985	1.00	18.03	A	C
ATOM	74	C	ALA	A	151	-66.342	46.837	60.361	1.00	29.86	A	C
ATOM	75	O	ALA	A	151	-66.608	45.829	59.701	1.00	29.86	A	O
ATOM	76	N	ASP	A	152	-66.838	47.065	61.574	1.00	30.71	A	N
ATOM	77	CA	ASP	A	152	-67.770	46.142	62.219	1.00	30.71	A	C
ATOM	78	CB	ASP	A	152	-67.434	46.010	63.707	1.00	54.66	A	C
ATOM	79	CG	ASP	A	152	-68.400	45.111	64.442	1.00	54.66	A	C
ATOM	80	OD1	ASP	A	152	-68.315	45.053	65.682	1.00	54.66	A	O
ATOM	81	OD2	ASP	A	152	-69.239	44.463	63.781	1.00	54.66	A	O
ATOM	82	C	ASP	A	152	-69.184	46.684	62.056	1.00	30.71	A	C
ATOM	83	O	ASP	A	152	-69.607	47.562	62.805	1.00	30.71	A	O
ATOM	84	N	SER	A	153	-69.907	46.157	61.073	1.00	51.28	A	N
ATOM	85	CA	SER	A	153	-71.260	46.609	60.796	1.00	51.28	A	C
ATOM	86	CB	SER	A	153	-71.732	46.029	59.469	1.00	80.67	A	C
ATOM	87	OG	SER	A	153	-71.611	44.622	59.485	1.00	80.67	A	O
ATOM	88	C	SER	A	153	-72.244	46.234	61.893	1.00	51.28	A	C
ATOM	89	O	SER	A	153	-73.426	46.550	61.808	1.00	51.28	A	O
ATOM	90	N	GLU	A	154	-71.753	45.577	62.933	1.00	52.39	A	N
ATOM	91	CA	GLU	A	154	-72.607	45.149	64.029	1.00	52.39	A	C
ATOM	92	CB	GLU	A	154	-72.128	43.795	64.549	1.00	97.36	A	C
ATOM	93	CG	GLU	A	154	-73.245	42.857	64.911	1.00	97.36	A	C
ATOM	94	CD	GLU	A	154	-74.029	42.444	63.693	1.00	97.36	A	C
ATOM	95	OE1	GLU	A	154	-73.460	41.721	62.849	1.00	97.36	A	O
ATOM	96	OE2	GLU	A	154	-75.205	42.850	63.570	1.00	97.36	A	O
ATOM	97	C	GLU	A	154	-72.620	46.142	65.183	1.00	52.39	A	C
ATOM	98	O	GLU	A	154	-73.567	46.182	65.961	1.00	52.39	A	O
ATOM	99	N	THR	A	155	-71.569	46.947	65.286	1.00	51.65	A	N
ATOM	100	CA	THR	A	155	-71.440	47.913	66.371	1.00	51.65	A	C
ATOM	101	CB	THR	A	155	-70.086	47.764	67.033	1.00	22.51	A	C
ATOM	102	OG1	THR	A	155	-69.965	46.433	67.531	1.00	22.51	A	O
ATOM	103	CG2	THR	A	155	-69.910	48.764	68.167	1.00	22.51	A	C
ATOM	104	C	THR	A	155	-71.573	49.359	65.955	1.00	51.65	A	C
ATOM	105	O	THR	A	155	-71.157	49.738	64.869	1.00	51.65	A	O
ATOM	106	N	PRO	A	156	-72.146	50.197	66.827	1.00	45.18	A	N
ATOM	107	CD	PRO	A	156	-72.778	49.889	68.119	1.00	37.21	A	C
ATOM	108	CA	PRO	A	156	-72.303	51.617	66.501	1.00	45.18	A	C
ATOM	109	CB	PRO	A	156	-73.235	52.116	67.597	1.00	37.21	A	C
ATOM	110	CG	PRO	A	156	-72.851	51.257	68.756	1.00	37.21	A	C
ATOM	111	C	PRO	A	156	-70.953	52.314	66.541	1.00	45.18	A	C
ATOM	112	O	PRO	A	156	-70.050	51.884	67.269	1.00	45.18	A	O
ATOM	113	N	THR	A	157	-70.817	53.386	65.767	1.00	53.48	A	N
ATOM	114	CA	THR	A	157	-69.564	54.129	65.727	1.00	53.48	A	C
ATOM	115	CB	THR	A	157	-69.635	55.275	64.718	1.00	49.94	A	C
ATOM	116	OG1	THR	A	157	-70.549	56.274	65.188	1.00	49.94	A	O
ATOM	117	CG2	THR	A	157	-70.113	54.751	63.376	1.00	49.94	A	C
ATOM	118	C	THR	A	157	-69.256	54.699	67.102	1.00	53.48	A	C
ATOM	119	O	THR	A	157	-70.159	55.061	67.850	1.00	53.48	A	O
ATOM	120	N	ILE	A	158	-67.975	54.777	67.428	1.00	53.90	A	N
ATOM	121	CA	ILE	A	158	-67.540	55.292	68.719	1.00	53.90	A	C
ATOM	122	CB	ILE	A	158	-66.208	54.671	69.109	1.00	16.97	A	C
ATOM	123	CG2	ILE	A	158	-65.813	55.124	70.492	1.00	16.97	A	C
ATOM	124	CG1	ILE	A	158	-66.316	53.149	69.033	1.00	16.97	A	C
ATOM	125	CD1	ILE	A	158	-65.020	52.427	69.304	1.00	16.97	A	C
ATOM	126	C	ILE	A	158	-67.369	56.811	68.752	1.00	53.90	A	C
ATOM	127	O	ILE	A	158	-66.698	57.381	67.897	1.00	53.90	A	O
ATOM	128	N	GLN	A	159	-67.968	57.457	69.748	1.00	53.22	A	N
ATOM	129	CA	GLN	A	159	-67.862	58.905	69.902	1.00	53.22	A	C

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Figure 8-3

ATOM	130	CB	GLN	A	159	-69.221	59.494	70.224	1.00	50.53	A	C
ATOM	131	CG	GLN	A	159	-70.211	59.251	69.128	1.00	50.53	A	C
ATOM	132	CD	GLN	A	159	-69.738	59.813	67.817	1.00	50.53	A	C
ATOM	133	OE1	GLN	A	159	-70.078	59.295	66.761	1.00	50.53	A	O
ATOM	134	NE2	GLN	A	159	-68.956	60.886	67.871	1.00	50.53	A	N
ATOM	135	C	GLN	A	159	-66.893	59.200	71.029	1.00	53.22	A	C
ATOM	136	O	GLN	A	159	-67.007	58.632	72.111	1.00	53.22	A	O
ATOM	137	N	LYS	A	160	-65.940	60.089	70.788	1.00	85.03	A	N
ATOM	138	CA	LYS	A	160	-64.954	60.389	71.813	1.00	85.03	A	C
ATOM	139	CB	LYS	A	160	-64.040	59.174	71.992	1.00	157.41	A	C
ATOM	140	CG	LYS	A	160	-63.025	59.280	73.112	1.00	130.79	A	C
ATOM	141	CD	LYS	A	160	-62.268	57.968	73.261	1.00	130.79	A	C
ATOM	142	CE	LYS	A	160	-61.315	57.993	74.446	1.00	130.79	A	C
ATOM	143	NZ	LYS	A	160	-60.626	56.683	74.637	1.00	130.79	A	N
ATOM	144	C	LYS	A	160	-64.125	61.619	71.465	1.00	85.03	A	C
ATOM	145	O	LYS	A	160	-63.426	61.644	70.454	1.00	85.03	A	O
ATOM	146	N	GLY	A	161	-64.209	62.640	72.310	1.00	94.07	A	N
ATOM	147	CA	GLY	A	161	-63.451	63.855	72.083	1.00	94.07	A	C
ATOM	148	C	GLY	A	161	-63.803	64.578	70.802	1.00	94.07	A	C
ATOM	149	O	GLY	A	161	-62.911	65.035	70.089	1.00	94.07	A	O
ATOM	150	N	SER	A	162	-65.097	64.680	70.503	1.00	49.96	A	N
ATOM	151	CA	SER	A	162	-65.563	65.370	69.301	1.00	49.96	A	C
ATOM	152	CB	SER	A	162	-65.005	66.800	69.263	1.00	73.37	A	C
ATOM	153	OG	SER	A	162	-65.514	67.520	68.154	1.00	73.37	A	O
ATOM	154	C	SER	A	162	-65.187	64.631	68.011	1.00	49.96	A	C
ATOM	155	O	SER	A	162	-65.564	65.045	66.911	1.00	49.96	A	O
ATOM	156	N	TYR	A	163	-64.426	63.549	68.146	1.00	46.96	A	N
ATOM	157	CA	TYR	A	163	-64.036	62.741	66.993	1.00	46.96	A	C
ATOM	158	CB	TYR	A	163	-62.609	62.192	67.135	1.00	62.09	A	C
ATOM	159	CG	TYR	A	163	-61.475	63.138	66.817	1.00	62.09	A	C
ATOM	160	CD1	TYR	A	163	-61.695	64.326	66.129	1.00	62.09	A	C
ATOM	161	CE1	TYR	A	163	-60.638	65.171	65.801	1.00	62.09	A	C
ATOM	162	CD2	TYR	A	163	-60.163	62.815	67.173	1.00	62.09	A	C
ATOM	163	CE2	TYR	A	163	-59.098	63.647	66.851	1.00	62.09	A	C
ATOM	164	CZ	TYR	A	163	-59.342	64.825	66.165	1.00	62.09	A	C
ATOM	165	OH	TYR	A	163	-58.291	65.655	65.852	1.00	62.09	A	O
ATOM	166	C	TYR	A	163	-64.979	61.550	66.958	1.00	46.96	A	C
ATOM	167	O	TYR	A	163	-65.780	61.344	67.873	1.00	46.96	A	O
ATOM	168	N	THR	A	164	-64.864	60.759	65.900	1.00	47.11	A	N
ATOM	169	CA	THR	A	164	-65.669	59.559	65.748	1.00	47.11	A	C
ATOM	170	CB	THR	A	164	-66.867	59.810	64.823	1.00	52.71	A	C
ATOM	171	OG1	THR	A	164	-67.483	58.563	64.486	1.00	52.71	A	O
ATOM	172	CG2	THR	A	164	-66.426	60.506	63.575	1.00	52.71	A	C
ATOM	173	C	THR	A	164	-64.775	58.457	65.189	1.00	47.11	A	C
ATOM	174	O	THR	A	164	-64.088	58.648	64.183	1.00	47.11	A	O
ATOM	175	N	PHE	A	165	-64.773	57.313	65.866	1.00	42.07	A	N
ATOM	176	CA	PHE	A	165	-63.947	56.182	65.470	1.00	42.07	A	C
ATOM	177	CB	PHE	A	165	-63.070	55.746	66.641	1.00	30.48	A	C
ATOM	178	CG	PHE	A	165	-62.256	56.857	67.219	1.00	30.48	A	C
ATOM	179	CD1	PHE	A	165	-62.848	57.807	68.048	1.00	30.48	A	C
ATOM	180	CD2	PHE	A	165	-60.908	56.985	66.897	1.00	30.48	A	C
ATOM	181	CE1	PHE	A	165	-62.111	58.870	68.546	1.00	30.48	A	C
ATOM	182	CE2	PHE	A	165	-60.161	58.039	67.385	1.00	30.48	A	C
ATOM	183	CZ	PHE	A	165	-60.762	58.989	68.213	1.00	30.48	A	C
ATOM	184	C	PHE	A	165	-64.787	55.013	65.015	1.00	42.07	A	C
ATOM	185	O	PHE	A	165	-65.849	54.754	65.572	1.00	42.07	A	O
ATOM	186	N	VAL	A	166	-64.311	54.295	64.006	1.00	29.20	A	N
ATOM	187	CA	VAL	A	166	-65.069	53.157	63.522	1.00	29.20	A	C
ATOM	188	CB	VAL	A	166	-64.831	52.879	61.989	1.00	8.90	A	C
ATOM	189	CG1	VAL	A	166	-63.991	53.963	61.376	1.00	8.90	A	C
ATOM	190	CG2	VAL	A	166	-64.180	51.533	61.778	1.00	8.90	A	C
ATOM	191	C	VAL	A	166	-64.709	51.927	64.336	1.00	29.20	A	C
ATOM	192	O	VAL	A	166	-63.572	51.756	64.764	1.00	29.20	A	O
ATOM	193	N	PRO	A	167	-65.698	51.072	64.589	1.00	33.78	A	N
ATOM	194	CD	PRO	A	167	-67.116	51.320	64.294	1.00	30.44	A	C
ATOM	195	CA	PRO	A	167	-65.533	49.833	65.347	1.00	33.78	A	C

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Figure 8-4

ATOM	196	CB	PRO	A	167	-66.971	49.378	65.583	1.00	30.44	A	C
ATOM	197	CG	PRO	A	167	-67.780	50.629	65.437	1.00	30.44	A	C
ATOM	198	C	PRO	A	167	-64.790	48.855	64.444	1.00	33.78	A	C
ATOM	199	O	PRO	A	167	-65.281	48.508	63.364	1.00	33.78	A	O
ATOM	200	N	TRP	A	168	-63.614	48.412	64.863	1.00	22.29	A	N
ATOM	201	CA	TRP	A	168	-62.863	47.485	64.029	1.00	23.52	A	C
ATOM	202	CB	TRP	A	168	-61.358	47.795	64.060	1.00	32.67	A	C
ATOM	203	CG	TRP	A	168	-61.012	49.125	63.512	1.00	26.93	A	C
ATOM	204	CD2	TRP	A	168	-61.287	49.612	62.194	1.00	27.50	A	C
ATOM	205	CE2	TRP	A	168	-60.848	50.953	62.146	1.00	26.89	A	C
ATOM	206	CE3	TRP	A	168	-61.865	49.050	61.048	1.00	28.63	A	C
ATOM	207	CD1	TRP	A	168	-60.432	50.145	64.184	1.00	29.78	A	C
ATOM	208	NE1	TRP	A	168	-60.330	51.251	63.376	1.00	32.76	A	N
ATOM	209	CZ2	TRP	A	168	-60.966	51.748	60.994	1.00	26.65	A	C
ATOM	210	CZ3	TRP	A	168	-61.981	49.845	59.896	1.00	32.39	A	C
ATOM	211	CH2	TRP	A	168	-61.533	51.176	59.884	1.00	30.60	A	C
ATOM	212	C	TRP	A	168	-63.062	46.035	64.407	1.00	23.83	A	C
ATOM	213	O	TRP	A	168	-63.273	45.694	65.570	1.00	25.49	A	O
ATOM	214	N	LEU	A	169	-62.972	45.189	63.391	1.00	36.72	A	N
ATOM	215	CA	LEU	A	169	-63.095	43.753	63.538	1.00	37.19	A	C
ATOM	216	CB	LEU	A	169	-64.337	43.287	62.795	1.00	74.36	A	C
ATOM	217	CG	LEU	A	169	-65.249	42.349	63.567	1.00	74.36	A	C
ATOM	218	CD1	LEU	A	169	-66.624	42.356	62.931	1.00	74.36	A	C
ATOM	219	CD2	LEU	A	169	-64.636	40.950	63.582	1.00	74.36	A	C
ATOM	220	C	LEU	A	169	-61.821	43.244	62.870	1.00	37.82	A	C
ATOM	221	O	LEU	A	169	-61.458	43.712	61.794	1.00	36.17	A	O
ATOM	222	N	LEU	A	170	-61.125	42.313	63.503	1.00	28.62	A	N
ATOM	223	CA	LEU	A	170	-59.885	41.822	62.924	1.00	28.62	A	C
ATOM	224	CB	LEU	A	170	-59.115	40.973	63.931	1.00	10.68	A	C
ATOM	225	CG	LEU	A	170	-57.865	40.344	63.310	1.00	10.68	A	C
ATOM	226	CD1	LEU	A	170	-56.850	41.432	63.024	1.00	10.68	A	C
ATOM	227	CD2	LEU	A	170	-57.277	39.313	64.235	1.00	10.68	A	C
ATOM	228	C	LEU	A	170	-60.066	41.018	61.645	1.00	28.62	A	C
ATOM	229	O	LEU	A	170	-60.596	39.911	61.671	1.00	29.37	A	O
ATOM	230	N	SER	A	171	-59.618	41.578	60.527	1.00	35.51	A	N
ATOM	231	CA	SER	A	171	-59.707	40.894	59.248	1.00	35.52	A	C
ATOM	232	CB	SER	A	171	-59.283	41.818	58.108	1.00	25.81	A	C
ATOM	233	OG	SER	A	171	-59.010	41.084	56.927	1.00	25.81	A	O
ATOM	234	C	SER	A	171	-58.748	39.735	59.329	1.00	33.91	A	C
ATOM	235	O	SER	A	171	-59.115	38.594	59.098	1.00	33.61	A	O
ATOM	236	N	PHE	A	172	-57.504	40.036	59.661	1.00	25.50	A	N
ATOM	237	CA	PHE	A	172	-56.507	38.992	59.789	1.00	22.02	A	C
ATOM	238	CB	PHE	A	172	-56.197	38.369	58.422	1.00	54.88	A	C
ATOM	239	CG	PHE	A	172	-55.253	39.180	57.593	1.00	33.54	A	C
ATOM	240	CD1	PHE	A	172	-53.880	39.119	57.813	1.00	33.54	A	C
ATOM	241	CD2	PHE	A	172	-55.735	40.048	56.620	1.00	33.54	A	C
ATOM	242	CE1	PHE	A	172	-52.999	39.919	57.077	1.00	33.54	A	C
ATOM	243	CE2	PHE	A	172	-54.861	40.855	55.873	1.00	33.54	A	C
ATOM	244	CZ	PHE	A	172	-53.490	40.789	56.107	1.00	33.54	A	C
ATOM	245	C	PHE	A	172	-55.246	39.590	60.393	1.00	23.56	A	C
ATOM	246	O	PHE	A	172	-54.994	40.780	60.272	1.00	24.35	A	O
ATOM	247	N	LYS	A	173	-54.463	38.751	61.053	1.00	33.79	A	N
ATOM	248	CA	LYS	A	173	-53.216	39.166	61.670	1.00	32.83	A	C
ATOM	249	CB	LYS	A	173	-53.335	39.093	63.184	1.00	11.51	A	C
ATOM	250	CG	LYS	A	173	-52.026	39.214	63.936	1.00	30.51	A	C
ATOM	251	CD	LYS	A	173	-52.259	39.002	65.429	1.00	30.51	A	C
ATOM	252	CE	LYS	A	173	-50.982	39.180	66.224	1.00	30.51	A	C
ATOM	253	NZ	LYS	A	173	-49.939	38.234	65.767	1.00	30.51	A	N
ATOM	254	C	LYS	A	173	-52.202	38.156	61.185	1.00	34.61	A	C
ATOM	255	O	LYS	A	173	-52.443	36.958	61.236	1.00	36.10	A	O
ATOM	256	N	ARG	A	174	-51.073	38.634	60.702	1.00	29.00	A	N
ATOM	257	CA	ARG	A	174	-50.059	37.741	60.190	1.00	29.00	A	C
ATOM	258	CB	ARG	A	174	-50.042	37.798	58.663	1.00	30.87	A	C
ATOM	259	CG	ARG	A	174	-49.059	36.854	58.038	1.00	30.87	A	C
ATOM	260	CD	ARG	A	174	-48.780	37.209	56.596	1.00	30.87	A	C
ATOM	261	NE	ARG	A	174	-47.897	36.232	55.957	1.00	30.87	A	N

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Figure 8-5

ATOM	262	CZ	ARG	A	174	-47.023	36.534	55.004	1.00	30.87	A	C
ATOM	263	NH1	ARG	A	174	-46.913	37.788	54.584	1.00	30.87	A	N
ATOM	264	NH2	ARG	A	174	-46.261	35.586	54.469	1.00	30.87	A	N
ATOM	265	C	ARG	A	174	-48.711	38.155	60.726	1.00	29.00	A	C
ATOM	266	O	ARG	A	174	-48.194	39.208	60.354	1.00	29.00	A	O
ATOM	267	N	GLY	A	175	-48.145	37.344	61.607	1.00	28.55	A	N
ATOM	268	CA	GLY	A	175	-46.843	37.678	62.151	1.00	28.55	A	C
ATOM	269	C	GLY	A	175	-46.837	38.184	63.582	1.00	28.55	A	C
ATOM	270	O	GLY	A	175	-47.894	38.321	64.212	1.00	28.55	A	O
ATOM	271	N	SER	A	176	-45.631	38.468	64.079	1.00	51.12	A	N
ATOM	272	CA	SER	A	176	-45.408	38.943	65.440	1.00	51.12	A	C
ATOM	273	CB	SER	A	176	-43.987	38.581	65.878	1.00	92.52	A	C
ATOM	274	OG	SER	A	176	-43.045	38.907	64.871	1.00	92.52	A	O
ATOM	275	C	SER	A	176	-45.640	40.440	65.617	1.00	51.12	A	O
ATOM	276	O	SER	A	176	-46.406	40.845	66.487	1.00	51.12	A	C
ATOM	277	N	ALA	A	177	-44.970	41.259	64.809	1.00	69.88	A	N
ATOM	278	CA	ALA	A	177	-45.136	42.708	64.896	1.00	69.88	A	C
ATOM	279	CB	ALA	A	177	-44.214	43.403	63.917	1.00	37.52	A	C
ATOM	280	C	ALA	A	177	-46.572	43.002	64.535	1.00	69.88	A	C
ATOM	281	O	ALA	A	177	-47.185	42.244	63.787	1.00	69.88	A	O
ATOM	282	N	LEU	A	178	-47.120	44.090	65.053	1.00	39.66	A	N
ATOM	283	CA	LEU	A	178	-48.505	44.424	64.728	1.00	39.66	A	C
ATOM	284	CB	LEU	A	178	-48.677	44.522	63.211	1.00	37.11	A	C
ATOM	285	CG	LEU	A	178	-48.535	45.860	62.485	1.00	18.18	A	C
ATOM	286	CD1	LEU	A	178	-47.517	46.765	63.155	1.00	18.18	A	C
ATOM	287	CD2	LEU	A	178	-48.136	45.570	61.054	1.00	18.18	A	C
ATOM	288	C	LEU	A	178	-49.550	43.440	65.262	1.00	39.66	A	C
ATOM	289	O	LEU	A	178	-49.569	42.270	64.896	1.00	39.66	A	O
ATOM	290	N	GLU	A	179	-50.414	43.928	66.139	1.00	32.97	A	N
ATOM	291	CA	GLU	A	179	-51.501	43.137	66.689	1.00	32.97	A	C
ATOM	292	CB	GLU	A	179	-51.042	42.267	67.866	1.00	86.85	A	C
ATOM	293	CG	GLU	A	179	-50.361	42.987	68.999	1.00	36.05	A	C
ATOM	294	CD	GLU	A	179	-49.782	42.024	70.038	1.00	36.05	A	C
ATOM	295	OE1	GLU	A	179	-48.898	41.216	69.670	1.00	36.05	A	O
ATOM	296	OE2	GLU	A	179	-50.208	42.078	71.216	1.00	36.05	A	O
ATOM	297	C	GLU	A	179	-52.529	44.177	67.103	1.00	32.97	A	C
ATOM	298	O	GLU	A	179	-52.186	45.345	67.260	1.00	32.97	A	O
ATOM	299	N	GLU	A	180	-53.789	43.777	67.231	1.00	29.82	A	N
ATOM	300	CA	GLU	A	180	-54.846	44.716	67.592	1.00	29.82	A	C
ATOM	301	CB	GLU	A	180	-56.191	44.209	67.077	1.00	51.75	A	C
ATOM	302	CG	GLU	A	180	-57.386	44.989	67.571	1.00	51.75	A	C
ATOM	303	CD	GLU	A	180	-58.681	44.480	66.964	1.00	51.75	A	C
ATOM	304	OE1	GLU	A	180	-58.807	43.245	66.806	1.00	61.54	A	O
ATOM	305	OE2	GLU	A	180	-59.577	45.302	66.650	1.00	61.54	A	O
ATOM	306	C	GLU	A	180	-54.919	44.967	69.095	1.00	29.82	A	C
ATOM	307	O	GLU	A	180	-55.082	44.039	69.886	1.00	29.82	A	O
ATOM	308	N	LYS	A	181	-54.794	46.235	69.481	1.00	56.40	A	N
ATOM	309	CA	LYS	A	181	-54.840	46.615	70.882	1.00	56.40	A	C
ATOM	310	CB	LYS	A	181	-53.946	47.822	71.139	1.00	58.14	A	C
ATOM	311	CG	LYS	A	181	-53.863	48.256	72.595	1.00	58.14	A	C
ATOM	312	CD	LYS	A	181	-53.075	47.278	73.423	1.00	58.14	A	C
ATOM	313	CE	LYS	A	181	-52.771	47.868	74.786	1.00	58.14	A	C
ATOM	314	NZ	LYS	A	181	-51.801	47.031	75.555	1.00	58.14	A	N
ATOM	315	C	LYS	A	181	-56.254	46.950	71.290	1.00	56.40	A	C
ATOM	316	O	LYS	A	181	-57.099	46.068	71.408	1.00	56.40	A	O
ATOM	317	N	GLU	A	182	-56.523	48.229	71.495	1.00	28.88	A	N
ATOM	318	CA	GLU	A	182	-57.848	48.640	71.923	1.00	28.88	A	C
ATOM	319	CB	GLU	A	182	-57.751	49.537	73.150	1.00	103.21	A	C
ATOM	320	CG	GLU	A	182	-56.879	48.952	74.236	1.00	103.21	A	C
ATOM	321	CD	GLU	A	182	-56.787	49.845	75.443	1.00	103.21	A	C
ATOM	322	OE1	GLU	A	182	-57.784	49.928	76.191	1.00	103.21	A	O
ATOM	323	OE2	GLU	A	182	-55.721	50.471	75.635	1.00	103.21	A	O
ATOM	324	C	GLU	A	182	-58.501	49.378	70.784	1.00	28.88	A	C
ATOM	325	O	GLU	A	182	-58.672	50.598	70.830	1.00	28.88	A	O
ATOM	326	N	ASN	A	183	-58.865	48.613	69.760	1.00	23.33	A	N
ATOM	327	CA	ASN	A	183	-59.495	49.145	68.564	1.00	23.33	A	C

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Figure 8-6

ATOM	328	CB	ASN	A	183	-60.708	49.990	68.905	1.00	28.84	A	C
ATOM	329	CG	ASN	A	183	-61.568	50.243	67.706	1.00	28.84	A	C
ATOM	330	OD1	ASN	A	183	-62.095	49.308	67.099	1.00	28.84	A	O
ATOM	331	ND2	ASN	A	183	-61.710	51.509	67.339	1.00	28.84	A	N
ATOM	332	C	ASN	A	183	-58.504	49.980	67.776	1.00	23.33	A	C
ATOM	333	O	ASN	A	183	-58.881	50.845	66.986	1.00	23.33	A	O
ATOM	334	N	LYS	A	184	-57.228	49.716	68.016	1.00	29.45	A	N
ATOM	335	CA	LYS	A	184	-56.163	50.393	67.303	1.00	29.45	A	C
ATOM	336	CB	LYS	A	184	-55.649	51.594	68.104	1.00	42.45	A	C
ATOM	337	CG	LYS	A	184	-55.939	51.547	69.585	1.00	42.45	A	C
ATOM	338	CD	LYS	A	184	-55.631	52.893	70.208	1.00	42.45	A	C
ATOM	339	CE	LYS	A	184	-55.883	52.882	71.698	1.00	42.45	A	C
ATOM	340	NZ	LYS	A	184	-55.512	54.185	72.319	1.00	42.45	A	N
ATOM	341	C	LYS	A	184	-55.042	49.393	67.014	1.00	29.45	A	C
ATOM	342	O	LYS	A	184	-54.968	48.337	67.639	1.00	29.45	A	O
ATOM	343	N	ILE	A	185	-54.189	49.713	66.049	1.00	21.08	A	N
ATOM	344	CA	ILE	A	185	-53.095	48.827	65.695	1.00	19.57	A	C
ATOM	345	CB	ILE	A	185	-52.686	49.022	64.235	1.00	16.09	A	C
ATOM	346	CG2	ILE	A	185	-51.473	48.154	63.922	1.00	16.09	A	C
ATOM	347	CG1	ILE	A	185	-53.875	48.706	63.327	1.00	16.09	A	C
ATOM	348	CD1	ILE	A	185	-53.632	49.047	61.888	1.00	16.09	A	C
ATOM	349	C	ILE	A	185	-51.900	49.104	66.584	1.00	20.03	A	C
ATOM	350	O	ILE	A	185	-51.420	50.230	66.652	1.00	23.22	A	O
ATOM	351	N	LEU	A	186	-51.425	48.066	67.265	1.00	15.87	A	N
ATOM	352	CA	LEU	A	186	-50.284	48.176	68.166	1.00	15.07	A	C
ATOM	353	CB	LEU	A	186	-50.564	47.406	69.456	1.00	31.54	A	C
ATOM	354	CG	LEU	A	186	-49.363	47.286	70.396	1.00	31.54	A	C
ATOM	355	CD1	LEU	A	186	-48.818	48.669	70.727	1.00	31.54	A	C
ATOM	356	CD2	LEU	A	186	-49.780	46.574	71.653	1.00	31.54	A	C
ATOM	357	C	LEU	A	186	-48.991	47.651	67.532	1.00	12.21	A	C
ATOM	358	O	LEU	A	186	-48.919	46.502	67.099	1.00	19.14	A	O
ATOM	359	N	VAL	A	187	-47.970	48.504	67.476	1.00	30.70	A	N
ATOM	360	CA	VAL	A	187	-46.695	48.116	66.895	1.00	32.20	A	C
ATOM	361	CB	VAL	A	187	-45.865	49.338	66.484	1.00	12.40	A	C
ATOM	362	CG1	VAL	A	187	-44.507	48.883	65.964	1.00	10.45	A	C
ATOM	363	CG2	VAL	A	187	-46.588	50.127	65.419	1.00	19.46	A	C
ATOM	364	C	VAL	A	187	-45.900	47.328	67.918	1.00	34.41	A	C
ATOM	365	O	VAL	A	187	-45.653	47.810	69.022	1.00	36.73	A	O
ATOM	366	N	LYS	A	188	-45.490	46.119	67.550	1.00	28.67	A	N
ATOM	367	CA	LYS	A	188	-44.716	45.283	68.463	1.00	30.56	A	C
ATOM	368	CB	LYS	A	188	-45.304	43.868	68.498	1.00	48.12	A	C
ATOM	369	CG	LYS	A	188	-46.439	43.707	69.498	1.00	52.10	A	C
ATOM	370	CD	LYS	A	188	-45.920	43.921	70.916	1.00	57.39	A	C
ATOM	371	CE	LYS	A	188	-47.037	43.988	71.945	1.00	62.35	A	C
ATOM	372	NZ	LYS	A	188	-47.761	42.697	72.110	1.00	47.52	A	N
ATOM	373	C	LYS	A	188	-43.220	45.230	68.145	1.00	28.37	A	C
ATOM	374	O	LYS	A	188	-42.413	44.878	68.998	1.00	30.95	A	O
ATOM	375	N	GLU	A	189	-42.855	45.585	66.919	1.00	30.42	A	N
ATOM	376	CA	GLU	A	189	-41.456	45.584	66.509	1.00	33.11	A	C
ATOM	377	CB	GLU	A	189	-41.155	44.394	65.609	1.00	71.98	A	C
ATOM	378	CG	GLU	A	189	-41.531	43.058	66.193	1.00	71.98	A	C
ATOM	379	CD	GLU	A	189	-41.245	41.921	65.237	1.00	71.98	A	C
ATOM	380	OE1	GLU	A	189	-41.576	40.768	65.580	1.00	71.98	A	O
ATOM	381	OE2	GLU	A	189	-40.687	42.178	64.145	1.00	71.98	A	O
ATOM	382	C	GLU	A	189	-41.183	46.851	65.732	1.00	30.63	A	C
ATOM	383	O	GLU	A	189	-41.741	47.060	64.659	1.00	31.19	A	O
ATOM	384	N	THR	A	190	-40.318	47.695	66.265	1.00	33.28	A	N
ATOM	385	CA	THR	A	190	-40.009	48.936	65.590	1.00	34.85	A	C
ATOM	386	CB	THR	A	190	-39.043	49.777	66.446	1.00	29.24	A	C
ATOM	387	OG1	THR	A	190	-37.987	50.287	65.626	1.00	29.24	A	O
ATOM	388	CG2	THR	A	190	-38.470	48.942	67.565	1.00	29.24	A	C
ATOM	389	C	THR	A	190	-39.434	48.664	64.197	1.00	33.33	A	C
ATOM	390	O	THR	A	190	-38.677	47.713	64.004	1.00	33.98	A	O
ATOM	391	N	GLY	A	191	-39.831	49.486	63.225	1.00	21.04	A	N
ATOM	392	CA	GLY	A	191	-39.357	49.328	61.857	1.00	22.49	A	C
ATOM	393	C	GLY	A	191	-40.143	50.201	60.889	1.00	22.69	A	C

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Figure 8-7

ATOM	394	O	GLY	A	191	-40.824	51.131	61.316	1.00	25.40	A	O
ATOM	395	N	TYR	A	192	-40.049	49.916	59.591	1.00	24.18	A	N
ATOM	396	CA	TYR	A	192	-40.780	50.691	58.588	1.00	23.72	A	C
ATOM	397	CB	TYR	A	192	-39.943	50.905	57.328	1.00	31.66	A	C
ATOM	398	CG	TYR	A	192	-38.821	51.886	57.533	1.00	31.66	A	C
ATOM	399	CD1	TYR	A	192	-37.649	51.499	58.168	1.00	31.66	A	C
ATOM	400	CE1	TYR	A	192	-36.634	52.395	58.410	1.00	31.66	A	C
ATOM	401	CD2	TYR	A	192	-38.948	53.211	57.135	1.00	31.66	A	C
ATOM	402	CE2	TYR	A	192	-37.938	54.123	57.374	1.00	31.66	A	C
ATOM	403	CZ	TYR	A	192	-36.779	53.705	58.017	1.00	31.66	A	C
ATOM	404	OH	TYR	A	192	-35.770	54.595	58.305	1.00	31.66	A	O
ATOM	405	C	TYR	A	192	-42.082	50.004	58.217	1.00	21.96	A	C
ATOM	406	O	TYR	A	192	-42.121	48.793	57.998	1.00	23.01	A	O
ATOM	407	N	PHE	A	193	-43.156	50.780	58.147	1.00	36.55	A	N
ATOM	408	CA	PHE	A	193	-44.445	50.202	57.823	1.00	36.55	A	C
ATOM	409	CB	PHE	A	193	-45.322	50.103	59.076	1.00	29.69	A	C
ATOM	410	CG	PHE	A	193	-44.782	49.202	60.154	1.00	29.69	A	C
ATOM	411	CD1	PHE	A	193	-43.746	49.624	60.977	1.00	29.69	A	C
ATOM	412	CD2	PHE	A	193	-45.350	47.945	60.379	1.00	29.69	A	C
ATOM	413	CE1	PHE	A	193	-43.281	48.811	62.015	1.00	29.69	A	C
ATOM	414	CE2	PHE	A	193	-44.899	47.125	61.410	1.00	29.69	A	C
ATOM	415	CZ	PHE	A	193	-43.862	47.557	62.232	1.00	29.69	A	C
ATOM	416	C	PHE	A	193	-45.234	50.961	56.765	1.00	36.55	A	C
ATOM	417	O	PHE	A	193	-45.228	52.194	56.715	1.00	36.55	A	O
ATOM	418	N	PHE	A	194	-45.911	50.194	55.916	1.00	20.05	A	N
ATOM	419	CA	PHE	A	194	-46.776	50.741	54.883	1.00	20.53	A	C
ATOM	420	CB	PHE	A	194	-46.816	49.805	53.675	1.00	16.87	A	C
ATOM	421	CG	PHE	A	194	-47.806	50.211	52.632	1.00	16.87	A	C
ATOM	422	CD1	PHE	A	194	-47.624	51.369	51.893	1.00	16.87	A	C
ATOM	423	CD2	PHE	A	194	-48.954	49.456	52.420	1.00	16.87	A	C
ATOM	424	CE1	PHE	A	194	-48.578	51.770	50.964	1.00	16.87	A	C
ATOM	425	CE2	PHE	A	194	-49.910	49.850	51.496	1.00	16.87	A	C
ATOM	426	CZ	PHE	A	194	-49.722	51.007	50.769	1.00	16.87	A	C
ATOM	427	C	PHE	A	194	-48.121	50.743	55.597	1.00	20.92	A	C
ATOM	428	O	PHE	A	194	-48.598	49.695	56.031	1.00	23.04	A	O
ATOM	429	N	ILE	A	195	-48.717	51.917	55.743	1.00	27.85	A	N
ATOM	430	CA	ILE	A	195	-49.983	52.049	56.445	1.00	25.06	A	C
ATOM	431	CB	ILE	A	195	-49.833	53.024	57.601	1.00	18.80	A	C
ATOM	432	CG2	ILE	A	195	-51.111	53.079	58.400	1.00	18.80	A	C
ATOM	433	CG1	ILE	A	195	-48.650	52.600	58.465	1.00	18.80	A	C
ATOM	434	CD1	ILE	A	195	-48.313	53.577	59.575	1.00	18.80	A	C
ATOM	435	C	ILE	A	195	-51.051	52.576	55.515	1.00	24.03	A	C
ATOM	436	O	ILE	A	195	-50.818	53.533	54.792	1.00	22.65	A	O
ATOM	437	N	TYR	A	196	-52.229	51.970	55.543	1.00	13.66	A	N
ATOM	438	CA	TYR	A	196	-53.320	52.400	54.667	1.00	18.19	A	C
ATOM	439	CB	TYR	A	196	-53.410	51.497	53.424	1.00	20.55	A	C
ATOM	440	CG	TYR	A	196	-53.586	50.029	53.756	1.00	15.44	A	C
ATOM	441	CD1	TYR	A	196	-52.497	49.247	54.140	1.00	18.75	A	C
ATOM	442	CE1	TYR	A	196	-52.662	47.918	54.498	1.00	17.11	A	C
ATOM	443	CD2	TYR	A	196	-54.846	49.441	53.737	1.00	18.89	A	C
ATOM	444	CE2	TYR	A	196	-55.025	48.110	54.095	1.00	22.06	A	C
ATOM	445	CZ	TYR	A	196	-53.933	47.354	54.475	1.00	18.17	A	C
ATOM	446	OH	TYR	A	196	-54.116	46.040	54.838	1.00	18.40	A	O
ATOM	447	C	TYR	A	196	-54.658	52.374	55.385	1.00	19.44	A	C
ATOM	448	O	TYR	A	196	-54.888	51.561	56.287	1.00	16.65	A	O
ATOM	449	N	GLY	A	197	-55.546	53.263	54.961	1.00	24.36	A	N
ATOM	450	CA	GLY	A	197	-56.857	53.345	55.571	1.00	23.18	A	C
ATOM	451	C	GLY	A	197	-57.873	53.966	54.643	1.00	23.93	A	C
ATOM	452	O	GLY	A	197	-57.598	54.963	53.969	1.00	22.27	A	O
ATOM	453	N	GLN	A	198	-59.052	53.363	54.601	1.00	21.51	A	N
ATOM	454	CA	GLN	A	198	-60.124	53.853	53.753	1.00	24.20	A	C
ATOM	455	CB	GLN	A	198	-60.220	53.021	52.474	1.00	24.82	A	C
ATOM	456	CG	GLN	A	198	-61.479	53.312	51.672	1.00	27.92	A	C
ATOM	457	CD	GLN	A	198	-61.587	52.476	50.424	1.00	31.18	A	C
ATOM	458	OE1	GLN	A	198	-60.738	52.563	49.542	1.00	29.84	A	O
ATOM	459	NE2	GLN	A	198	-62.637	51.661	50.336	1.00	28.43	A	N

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Figure 8-8

ATOM 460	C	GLN	A	198	-61.458	53.801	54.469	1.00	24.15	A	C
ATOM 461	O	GLN	A	198	-61.741	52.859	55.211	1.00	24.98	A	O
ATOM 462	N	VAL	A	199	-62.275	54.821	54.255	1.00	10.19	A	N
ATOM 463	CA	VAL	A	199	-63.605	54.847	54.851	1.00	13.34	A	C
ATOM 464	CB	VAL	A	199	-63.635	55.606	56.226	1.00	23.00	A	C
ATOM 465	CG1	VAL	A	199	-62.397	56.451	56.384	1.00	21.76	A	C
ATOM 466	CG2	VAL	A	199	-64.899	56.455	56.339	1.00	24.47	A	C
ATOM 467	C	VAL	A	199	-64.597	55.458	53.870	1.00	15.47	A	C
ATOM 468	O	VAL	A	199	-64.274	56.393	53.133	1.00	14.19	A	O
ATOM 469	N	LEU	A	200	-65.798	54.895	53.840	1.00	29.30	A	N
ATOM 470	CA	LEU	A	200	-66.842	55.382	52.952	1.00	28.36	A	C
ATOM 471	CB	LEU	A	200	-67.708	54.214	52.471	1.00	13.14	A	C
ATOM 472	CG	LEU	A	200	-69.055	54.540	51.819	1.00	13.14	A	C
ATOM 473	CD1	LEU	A	200	-68.915	55.680	50.804	1.00	13.14	A	C
ATOM 474	CD2	LEU	A	200	-69.583	53.284	51.159	1.00	13.14	A	C
ATOM 475	C	LEU	A	200	-67.705	56.422	53.658	1.00	29.34	A	C
ATOM 476	O	LEU	A	200	-68.475	56.104	54.566	1.00	30.76	A	O
ATOM 477	N	TYR	A	201	-67.561	57.671	53.240	1.00	24.46	A	N
ATOM 478	CA	TYR	A	201	-68.323	58.748	53.829	1.00	24.72	A	C
ATOM 479	CB	TYR	A	201	-67.569	60.059	53.661	1.00	38.86	A	C
ATOM 480	CG	TYR	A	201	-66.289	60.025	54.431	1.00	38.86	A	C
ATOM 481	CD1	TYR	A	201	-66.307	59.968	55.817	1.00	38.86	A	C
ATOM 482	CE1	TYR	A	201	-65.140	59.833	56.541	1.00	38.86	A	C
ATOM 483	CD2	TYR	A	201	-65.059	59.951	53.782	1.00	38.86	A	C
ATOM 484	CE2	TYR	A	201	-63.879	59.811	54.499	1.00	38.86	A	C
ATOM 485	CZ	TYR	A	201	-63.934	59.749	55.877	1.00	38.86	A	C
ATOM 486	OH	TYR	A	201	-62.789	59.574	56.602	1.00	38.86	A	O
ATOM 487	C	TYR	A	201	-69.709	58.830	53.215	1.00	24.16	A	C
ATOM 488	O	TYR	A	201	-69.872	58.903	51.993	1.00	23.62	A	O
ATOM 489	N	THR	A	202	-70.708	58.809	54.090	1.00	43.55	A	N
ATOM 490	CA	THR	A	202	-72.091	58.865	53.677	1.00	48.80	A	C
ATOM 491	CB	THR	A	202	-72.790	57.558	54.081	1.00	80.19	A	C
ATOM 492	OG1	THR	A	202	-74.120	57.547	53.567	1.00	80.19	A	O
ATOM 493	CG2	THR	A	202	-72.833	57.414	55.582	1.00	80.19	A	C
ATOM 494	C	THR	A	202	-72.760	60.077	54.324	1.00	47.44	A	C
ATOM 495	O	THR	A	202	-73.975	60.182	54.372	1.00	46.57	A	O
ATOM 496	N	ASP	A	203	-71.936	60.995	54.810	1.00	49.70	A	N
ATOM 497	CA	ASP	A	203	-72.391	62.216	55.467	1.00	49.70	A	C
ATOM 498	CB	ASP	A	203	-71.383	62.587	56.571	1.00	53.41	A	C
ATOM 499	CG	ASP	A	203	-71.749	63.857	57.315	1.00	53.41	A	C
ATOM 500	OD1	ASP	A	203	-71.320	64.009	58.476	1.00	53.41	A	O
ATOM 501	OD2	ASP	A	203	-72.452	64.712	56.742	1.00	53.41	A	O
ATOM 502	C	ASP	A	203	-72.472	63.306	54.401	1.00	49.70	A	C
ATOM 503	O	ASP	A	203	-71.719	63.266	53.434	1.00	49.70	A	O
ATOM 504	N	LYS	A	204	-73.374	64.274	54.560	1.00	48.97	A	N
ATOM 505	CA	LYS	A	204	-73.488	65.329	53.561	1.00	48.97	A	C
ATOM 506	CB	LYS	A	204	-74.950	65.496	53.133	1.00	55.63	A	C
ATOM 507	CG	LYS	A	204	-75.873	65.989	54.216	1.00	55.63	A	C
ATOM 508	CD	LYS	A	204	-77.303	66.078	53.702	1.00	55.63	A	C
ATOM 509	CE	LYS	A	204	-77.849	64.704	53.301	1.00	55.63	A	C
ATOM 510	NZ	LYS	A	204	-79.256	64.765	52.815	1.00	55.63	A	N
ATOM 511	C	LYS	A	204	-72.892	66.695	53.927	1.00	48.97	A	C
ATOM 512	O	LYS	A	204	-73.254	67.712	53.330	1.00	48.97	A	O
ATOM 513	N	THR	A	205	-71.974	66.725	54.890	1.00	49.78	A	N
ATOM 514	CA	THR	A	205	-71.331	67.986	55.270	1.00	49.78	A	C
ATOM 515	CB	THR	A	205	-70.525	67.837	56.586	1.00	53.87	A	C
ATOM 516	OG1	THR	A	205	-69.364	67.033	56.356	1.00	53.87	A	O
ATOM 517	CG2	THR	A	205	-71.367	67.171	57.649	1.00	53.87	A	C
ATOM 518	C	THR	A	205	-70.381	68.380	54.127	1.00	49.78	A	C
ATOM 519	O	THR	A	205	-69.893	67.505	53.416	1.00	49.78	A	O
ATOM 520	N	TYR	A	206	-70.110	69.674	53.953	1.00	39.15	A	N
ATOM 521	CA	TYR	A	206	-69.247	70.135	52.856	1.00	39.15	A	C
ATOM 522	CB	TYR	A	206	-68.726	71.560	53.113	1.00	91.60	A	C
ATOM 523	CG	TYR	A	206	-67.626	71.668	54.146	1.00	91.60	A	C
ATOM 524	CD1	TYR	A	206	-66.491	72.443	53.905	1.00	91.60	A	C
ATOM 525	CE1	TYR	A	206	-65.481	72.559	54.860	1.00	91.60	A	C

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Figure 8-9

ATOM	526	CD2	TYR	A	206	-67.725	71.011	55.370	1.00	91.60	A	C
ATOM	527	CE2	TYR	A	206	-66.723	71.120	56.333	1.00	91.60	A	C
ATOM	528	CZ	TYR	A	206	-65.605	71.893	56.075	1.00	91.60	A	C
ATOM	529	OH	TYR	A	206	-64.619	71.992	57.035	1.00	91.60	A	O
ATOM	530	C	TYR	A	206	-68.061	69.218	52.541	1.00	39.15	A	C
ATOM	531	O	TYR	A	206	-67.738	68.981	51.368	1.00	39.15	A	O
ATOM	532	N	ALA	A	207	-67.413	68.700	53.581	1.00	36.27	A	N
ATOM	533	CA	ALA	A	207	-66.272	67.822	53.373	1.00	36.27	A	C
ATOM	534	CB	ALA	A	207	-65.029	68.649	53.164	1.00	22.73	A	C
ATOM	535	C	ALA	A	207	-66.062	66.848	54.523	1.00	36.27	A	C
ATOM	536	O	ALA	A	207	-66.270	67.185	55.687	1.00	36.27	A	O
ATOM	537	N	MET	A	208	-65.653	65.631	54.182	1.00	42.10	A	N
ATOM	538	CA	MET	A	208	-65.395	64.597	55.172	1.00	42.10	A	C
ATOM	539	CB	MET	A	208	-66.438	63.487	55.059	1.00	40.63	A	C
ATOM	540	CG	MET	A	208	-67.844	63.900	55.484	1.00	40.63	A	C
ATOM	541	SD	MET	A	208	-67.923	64.364	57.214	1.00	40.63	A	S
ATOM	542	CE	MET	A	208	-68.053	62.743	57.992	1.00	40.63	A	C
ATOM	543	C	MET	A	208	-64.003	64.018	54.960	1.00	42.10	A	C
ATOM	544	O	MET	A	208	-63.370	64.268	53.931	1.00	42.10	A	O
ATOM	545	N	GLY	A	209	-63.519	63.245	55.929	1.00	20.42	A	N
ATOM	546	CA	GLY	A	209	-62.196	62.662	55.787	1.00	20.42	A	C
ATOM	547	C	GLY	A	209	-61.698	62.072	57.080	1.00	20.42	A	C
ATOM	548	O	GLY	A	209	-62.330	62.235	58.113	1.00	20.42	A	O
ATOM	549	N	HIS	A	210	-60.576	61.368	57.038	1.00	22.04	A	N
ATOM	550	CA	HIS	A	210	-60.053	60.771	58.258	1.00	22.04	A	C
ATOM	551	CB	HIS	A	210	-60.328	59.264	58.304	1.00	23.88	A	C
ATOM	552	CG	HIS	A	210	-59.860	58.523	57.091	1.00	23.88	A	C
ATOM	553	CD2	HIS	A	210	-58.947	57.532	56.949	1.00	23.88	A	C
ATOM	554	ND1	HIS	A	210	-60.404	58.722	55.840	1.00	23.88	A	N
ATOM	555	CE1	HIS	A	210	-59.853	57.883	54.982	1.00	23.88	A	C
ATOM	556	NE2	HIS	A	210	-58.967	57.149	55.630	1.00	23.88	A	N
ATOM	557	C	HIS	A	210	-58.577	61.003	58.423	1.00	22.04	A	C
ATOM	558	O	HIS	A	210	-57.879	61.414	57.488	1.00	22.04	A	O
ATOM	559	N	LEU	A	211	-58.112	60.733	59.635	1.00	24.91	A	N
ATOM	560	CA	LEU	A	211	-56.716	60.900	59.970	1.00	26.88	A	C
ATOM	561	CB	LEU	A	211	-56.577	61.858	61.145	1.00	12.14	A	C
ATOM	562	CG	LEU	A	211	-57.478	63.090	61.128	1.00	11.40	A	C
ATOM	563	CD1	LEU	A	211	-57.427	63.725	62.494	1.00	11.40	A	C
ATOM	564	CD2	LEU	A	211	-57.041	64.064	60.068	1.00	11.40	A	C
ATOM	565	C	LEU	A	211	-56.173	59.556	60.393	1.00	27.96	A	C
ATOM	566	O	LEU	A	211	-56.789	58.870	61.213	1.00	30.95	A	O
ATOM	567	N	ILE	A	212	-55.047	59.161	59.809	1.00	24.12	A	N
ATOM	568	CA	ILE	A	212	-54.400	57.931	60.219	1.00	21.83	A	C
ATOM	569	CB	ILE	A	212	-53.755	57.212	59.040	1.00	12.01	A	C
ATOM	570	CG2	ILE	A	212	-52.817	56.111	59.545	1.00	18.82	A	C
ATOM	571	CG1	ILE	A	212	-54.856	56.621	58.163	1.00	18.82	A	C
ATOM	572	CD1	ILE	A	212	-54.343	55.937	56.935	1.00	18.82	A	C
ATOM	573	C	ILE	A	212	-53.351	58.513	61.155	1.00	19.78	A	C
ATOM	574	O	ILE	A	212	-52.386	59.123	60.708	1.00	20.78	A	O
ATOM	575	N	GLN	A	213	-53.577	58.358	62.455	1.00	42.07	A	N
ATOM	576	CA	GLN	A	213	-52.687	58.915	63.454	1.00	43.25	A	C
ATOM	577	CB	GLN	A	213	-53.509	59.665	64.494	1.00	33.00	A	C
ATOM	578	CG	GLN	A	213	-54.516	60.615	63.910	1.00	39.43	A	C
ATOM	579	CD	GLN	A	213	-55.300	61.330	64.984	1.00	39.43	A	C
ATOM	580	OE1	GLN	A	213	-55.857	60.703	65.892	1.00	39.43	A	O
ATOM	581	NE2	GLN	A	213	-55.353	62.651	64.892	1.00	39.43	A	N
ATOM	582	C	GLN	A	213	-51.782	57.922	64.167	1.00	41.22	A	C
ATOM	583	O	GLN	A	213	-52.073	56.729	64.272	1.00	39.94	A	O
ATOM	584	N	ARG	A	214	-50.679	58.453	64.672	1.00	33.19	A	N
ATOM	585	CA	ARG	A	214	-49.696	57.678	65.404	1.00	33.76	A	C
ATOM	586	CB	ARG	A	214	-48.331	57.890	64.766	1.00	39.32	A	C
ATOM	587	CG	ARG	A	214	-47.211	57.250	65.521	1.00	31.30	A	C
ATOM	588	CD	ARG	A	214	-45.894	57.749	65.013	1.00	31.30	A	C
ATOM	589	NE	ARG	A	214	-44.778	57.062	65.650	1.00	31.30	A	N
ATOM	590	CZ	ARG	A	214	-43.541	57.543	65.690	1.00	31.30	A	C
ATOM	591	NH1	ARG	A	214	-43.274	58.720	65.125	1.00	31.30	A	N

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Figure 8-10

ATOM	592	NH2	ARG	A	214	-42.578	56.857	66.298	1.00	31.30	A	N
ATOM	593	C	ARG	A	214	-49.659	58.126	66.877	1.00	32.41	A	C
ATOM	594	O	ARG	A	214	-49.444	59.301	67.169	1.00	33.43	A	O
ATOM	595	N	LYS	A	215	-49.883	57.193	67.796	1.00	19.13	A	N
ATOM	596	CA	LYS	A	215	-49.850	57.491	69.220	1.00	23.78	A	C
ATOM	597	CB	LYS	A	215	-50.921	56.680	69.942	1.00	154.94	A	C
ATOM	598	CG	LYS	A	215	-51.405	57.268	71.247	1.00	81.30	A	C
ATOM	599	CD	LYS	A	215	-52.372	56.301	71.918	1.00	81.30	A	C
ATOM	600	CE	LYS	A	215	-53.150	56.946	73.055	1.00	81.30	A	C
ATOM	601	NZ	LYS	A	215	-54.135	57.945	72.547	1.00	81.30	A	N
ATOM	602	C	LYS	A	215	-48.452	57.032	69.652	1.00	22.02	A	C
ATOM	603	O	LYS	A	215	-48.199	55.829	69.756	1.00	21.12	A	O
ATOM	604	N	LYS	A	216	-47.548	57.982	69.892	1.00	24.22	A	N
ATOM	605	CA	LYS	A	216	-46.169	57.670	70.265	1.00	24.22	A	C
ATOM	606	CB	LYS	A	216	-45.267	58.873	69.968	1.00	77.23	A	C
ATOM	607	CG	LYS	A	216	-45.198	59.244	68.502	1.00	60.90	A	C
ATOM	608	CD	LYS	A	216	-44.211	60.373	68.239	1.00	60.90	A	C
ATOM	609	CE	LYS	A	216	-44.700	61.697	68.790	1.00	60.90	A	C
ATOM	610	NZ	LYS	A	216	-43.804	62.834	68.404	1.00	60.90	A	N
ATOM	611	C	LYS	A	216	-45.972	57.258	71.714	1.00	24.22	A	C
ATOM	612	O	LYS	A	216	-46.632	57.780	72.595	1.00	24.22	A	O
ATOM	613	N	VAL	A	217	-45.057	56.323	71.956	1.00	47.82	A	N
ATOM	614	CA	VAL	A	217	-44.760	55.889	73.320	1.00	47.82	A	C
ATOM	615	CB	VAL	A	217	-44.174	54.468	73.383	1.00	47.76	A	C
ATOM	616	CG1	VAL	A	217	-45.249	53.470	73.126	1.00	47.76	A	C
ATOM	617	CG2	VAL	A	217	-43.049	54.314	72.376	1.00	47.76	A	C
ATOM	618	C	VAL	A	217	-43.727	56.812	73.917	1.00	47.82	A	C
ATOM	619	O	VAL	A	217	-43.676	56.998	75.130	1.00	47.82	A	O
ATOM	620	N	HIS	A	218	-42.887	57.372	73.057	1.00	63.41	A	N
ATOM	621	CA	HIS	A	218	-41.865	58.281	73.511	1.00	63.41	A	C
ATOM	622	CB	HIS	A	218	-40.513	57.911	72.944	1.00	44.54	A	C
ATOM	623	CG	HIS	A	218	-40.066	56.545	73.339	1.00	44.54	A	C
ATOM	624	CD2	HIS	A	218	-39.281	55.646	72.701	1.00	44.54	A	C
ATOM	625	ND1	HIS	A	218	-40.406	55.975	74.546	1.00	44.54	A	N
ATOM	626	CE1	HIS	A	218	-39.850	54.782	74.636	1.00	44.54	A	C
ATOM	627	NE2	HIS	A	218	-39.161	54.559	73.531	1.00	44.54	A	N
ATOM	628	C	HIS	A	218	-42.200	59.690	73.149	1.00	63.41	A	C
ATOM	629	O	HIS	A	218	-42.458	60.040	71.989	1.00	63.41	A	O
ATOM	630	N	VAL	A	219	-42.217	60.465	74.213	1.00	28.52	A	N
ATOM	631	CA	VAL	A	219	-42.506	61.858	74.177	1.00	28.52	A	C
ATOM	632	CB	VAL	A	219	-43.819	62.117	74.904	1.00	34.96	A	C
ATOM	633	CG1	VAL	A	219	-44.092	63.610	75.016	1.00	34.96	A	C
ATOM	634	CG2	VAL	A	219	-44.930	61.420	74.152	1.00	34.96	A	C
ATOM	635	C	VAL	A	219	-41.346	62.524	74.896	1.00	28.52	A	C
ATOM	636	O	VAL	A	219	-40.942	62.104	75.984	1.00	28.52	A	O
ATOM	637	N	PHE	A	220	-40.792	63.546	74.259	1.00	33.43	A	N
ATOM	638	CA	PHE	A	220	-39.694	64.296	74.822	1.00	33.43	A	C
ATOM	639	CB	PHE	A	220	-38.425	63.966	74.072	1.00	28.22	A	C
ATOM	640	CG	PHE	A	220	-38.049	62.517	74.136	1.00	28.22	A	C
ATOM	641	CD1	PHE	A	220	-38.298	61.673	73.065	1.00	28.22	A	C
ATOM	642	CD2	PHE	A	220	-37.414	61.995	75.269	1.00	28.22	A	C
ATOM	643	CE1	PHE	A	220	-37.916	60.329	73.113	1.00	28.22	A	C
ATOM	644	CE2	PHE	A	220	-37.029	60.646	75.326	1.00	28.22	A	C
ATOM	645	CZ	PHE	A	220	-37.283	59.817	74.244	1.00	28.22	A	C
ATOM	646	C	PHE	A	220	-40.030	65.771	74.687	1.00	33.43	A	C
ATOM	647	O	PHE	A	220	-40.407	66.221	73.610	1.00	33.43	A	O
ATOM	648	N	GLY	A	221	-39.921	66.504	75.793	1.00	42.98	A	N
ATOM	649	CA	GLY	A	221	-40.213	67.928	75.800	1.00	42.98	A	C
ATOM	650	C	GLY	A	221	-41.343	68.394	74.896	1.00	42.98	A	C
ATOM	651	O	GLY	A	221	-42.488	67.957	75.026	1.00	42.98	A	O
ATOM	652	N	ASP	A	222	-40.995	69.289	73.977	1.00	52.93	A	N
ATOM	653	CA	ASP	A	222	-41.900	69.898	72.995	1.00	52.93	A	C
ATOM	654	CB	ASP	A	222	-41.046	70.616	71.943	1.00	127.79	A	C
ATOM	655	CG	ASP	A	222	-41.552	72.002	71.621	1.00	127.79	A	C
ATOM	656	OD1	ASP	A	222	-41.026	72.617	70.667	1.00	127.79	A	O
ATOM	657	OD2	ASP	A	222	-42.466	72.480	72.326	1.00	127.79	A	O

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Figure 8-11

ATOM	658	C	ASP	A	222	-42.939	69.018	72.254	1.00	52.93	A	C
ATOM	659	O	ASP	A	222	-44.144	69.275	72.334	1.00	52.93	A	O
ATOM	660	N	GLU	A	223	-42.467	67.999	71.529	1.00	44.50	A	N
ATOM	661	CA	GLU	A	223	-43.325	67.125	70.714	1.00	44.50	A	C
ATOM	662	CB	GLU	A	223	-42.521	65.939	70.172	1.00	46.91	A	C
ATOM	663	CG	GLU	A	223	-42.204	64.861	71.179	1.00	46.91	A	C
ATOM	664	CD	GLU	A	223	-41.218	63.836	70.638	1.00	46.91	A	C
ATOM	665	OE1	GLU	A	223	-40.958	62.842	71.340	1.00	46.91	A	O
ATOM	666	OE2	GLU	A	223	-40.689	64.019	69.519	1.00	46.91	A	O
ATOM	667	C	GLU	A	223	-44.627	66.609	71.305	1.00	44.50	A	C
ATOM	668	O	GLU	A	223	-44.744	66.382	72.510	1.00	44.50	A	O
ATOM	669	N	LEU	A	224	-45.598	66.419	70.412	1.00	43.04	A	N
ATOM	670	CA	LEU	A	224	-46.937	65.939	70.748	1.00	43.04	A	C
ATOM	671	CB	LEU	A	224	-47.934	66.458	69.715	1.00	64.08	A	C
ATOM	672	CG	LEU	A	224	-48.130	67.969	69.620	1.00	64.08	A	C
ATOM	673	CD1	LEU	A	224	-48.885	68.287	68.340	1.00	64.08	A	C
ATOM	674	CD2	LEU	A	224	-48.880	68.481	70.852	1.00	64.08	A	C
ATOM	675	C	LEU	A	224	-46.962	64.418	70.741	1.00	43.04	A	C
ATOM	676	O	LEU	A	224	-46.270	63.804	69.934	1.00	43.04	A	O
ATOM	677	N	SER	A	225	-47.773	63.808	71.606	1.00	35.93	A	N
ATOM	678	CA	SER	A	225	-47.817	62.349	71.656	1.00	35.93	A	C
ATOM	679	CB	SER	A	225	-48.400	61.873	72.990	1.00	91.97	A	C
ATOM	680	OG	SER	A	225	-49.703	62.383	73.191	1.00	91.97	A	O
ATOM	681	C	SER	A	225	-48.602	61.744	70.490	1.00	35.93	A	C
ATOM	682	O	SER	A	225	-48.286	60.648	70.029	1.00	35.93	A	O
ATOM	683	N	LEU	A	226	-49.620	62.459	70.017	1.00	51.75	A	N
ATOM	684	CA	LEU	A	226	-50.429	61.982	68.902	1.00	50.52	A	C
ATOM	685	CB	LEU	A	226	-51.916	62.033	69.252	1.00	34.31	A	C
ATOM	686	CG	LEU	A	226	-52.851	61.403	68.210	1.00	34.31	A	C
ATOM	687	CD1	LEU	A	226	-52.675	59.882	68.205	1.00	34.31	A	C
ATOM	688	CD2	LEU	A	226	-54.285	61.747	68.538	1.00	34.31	A	C
ATOM	689	C	LEU	A	226	-50.193	62.839	67.671	1.00	45.99	A	C
ATOM	690	O	LEU	A	226	-50.467	64.028	67.683	1.00	46.76	A	O
ATOM	691	N	VAL	A	227	-49.682	62.241	66.607	1.00	51.92	A	N
ATOM	692	CA	VAL	A	227	-49.440	62.983	65.376	1.00	46.92	A	C
ATOM	693	CB	VAL	A	227	-47.947	63.091	65.074	1.00	34.29	A	C
ATOM	694	CG1	VAL	A	227	-47.255	63.802	66.216	1.00	34.29	A	C
ATOM	695	CG2	VAL	A	227	-47.351	61.709	64.864	1.00	34.29	A	C
ATOM	696	C	VAL	A	227	-50.118	62.268	64.222	1.00	42.75	A	C
ATOM	697	O	VAL	A	227	-50.171	61.033	64.189	1.00	33.66	A	O
ATOM	698	N	THR	A	228	-50.642	63.024	63.268	1.00	16.17	A	N
ATOM	699	CA	THR	A	228	-51.307	62.356	62.166	1.00	17.88	A	C
ATOM	700	CB	THR	A	228	-52.572	63.141	61.664	1.00	23.26	A	C
ATOM	701	OG1	THR	A	228	-52.259	63.841	60.459	1.00	23.26	A	O
ATOM	702	CG2	THR	A	228	-53.070	64.127	62.720	1.00	23.26	A	C
ATOM	703	C	THR	A	228	-50.311	62.133	61.041	1.00	16.17	A	C
ATOM	704	O	THR	A	228	-49.625	63.053	60.612	1.00	18.19	A	O
ATOM	705	N	LEU	A	229	-50.216	60.888	60.596	1.00	23.62	A	N
ATOM	706	CA	LEU	A	229	-49.303	60.506	59.531	1.00	20.31	A	C
ATOM	707	CB	LEU	A	229	-49.066	58.990	59.572	1.00	16.03	A	C
ATOM	708	CG	LEU	A	229	-47.988	58.441	60.521	1.00	16.03	A	C
ATOM	709	CD1	LEU	A	229	-47.629	59.462	61.560	1.00	16.03	A	C
ATOM	710	CD2	LEU	A	229	-48.476	57.161	61.153	1.00	16.03	A	C
ATOM	711	C	LEU	A	229	-49.839	60.911	58.171	1.00	20.20	A	C
ATOM	712	O	LEU	A	229	-49.171	61.610	57.412	1.00	20.55	A	O
ATOM	713	N	PHE	A	230	-51.045	60.461	57.859	1.00	33.69	A	N
ATOM	714	CA	PHE	A	230	-51.663	60.791	56.583	1.00	33.43	A	C
ATOM	715	CB	PHE	A	230	-51.551	59.623	55.601	1.00	53.44	A	C
ATOM	716	CG	PHE	A	230	-50.316	58.820	55.773	1.00	53.44	A	C
ATOM	717	CD1	PHE	A	230	-50.356	57.610	56.452	1.00	53.44	A	C
ATOM	718	CD2	PHE	A	230	-49.092	59.306	55.320	1.00	53.44	A	C
ATOM	719	CE1	PHE	A	230	-49.191	56.889	56.685	1.00	53.44	A	C
ATOM	720	CE2	PHE	A	230	-47.919	58.598	55.546	1.00	53.44	A	C
ATOM	721	CZ	PHE	A	230	-47.965	57.386	56.232	1.00	53.44	A	C
ATOM	722	C	PHE	A	230	-53.125	61.078	56.812	1.00	35.32	A	C
ATOM	723	O	PHE	A	230	-53.712	60.629	57.800	1.00	34.08	A	O

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Figure 8-12

ATOM	724	N	ARG	A	231	-53.716	61.839	55.902	1.00	17.06	A	N
ATOM	725	CA	ARG	A	231	-55.131	62.139	56.008	1.00	18.90	A	C
ATOM	726	CB	ARG	A	231	-55.385	63.464	56.740	1.00	23.86	A	C
ATOM	727	CG	ARG	A	231	-54.869	64.711	56.061	1.00	23.86	A	C
ATOM	728	CD	ARG	A	231	-54.857	65.851	57.071	1.00	27.90	A	C
ATOM	729	NE	ARG	A	231	-54.638	67.149	56.446	1.00	35.24	A	N
ATOM	730	CZ	ARG	A	231	-55.565	67.802	55.761	1.00	45.74	A	C
ATOM	731	NH1	ARG	A	231	-56.770	67.272	55.623	1.00	41.97	A	N
ATOM	732	NH2	ARG	A	231	-55.286	68.973	55.206	1.00	46.51	A	N
ATOM	733	C	ARG	A	231	-55.777	62.125	54.635	1.00	21.04	A	C
ATOM	734	O	ARG	A	231	-55.117	62.252	53.598	1.00	24.03	A	O
ATOM	735	N	CYS	A	232	-57.085	61.936	54.662	1.00	17.76	A	N
ATOM	736	CA	CYS	A	232	-57.895	61.831	53.472	1.00	17.70	A	C
ATOM	737	C	CYS	A	232	-59.007	62.857	53.588	1.00	21.16	A	C
ATOM	738	O	CYS	A	232	-59.567	63.052	54.666	1.00	22.59	A	O
ATOM	739	CB	CYS	A	232	-58.500	60.434	53.432	1.00	51.90	A	C
ATOM	740	SG	CYS	A	232	-58.652	59.731	51.779	1.00	51.90	A	S
ATOM	741	N	ILE	A	233	-59.341	63.514	52.487	1.00	17.35	A	N
ATOM	742	CA	ILE	A	233	-60.410	64.508	52.530	1.00	19.05	A	C
ATOM	743	CB	ILE	A	233	-59.847	65.949	52.711	1.00	38.23	A	C
ATOM	744	CG2	ILE	A	233	-58.986	66.339	51.522	1.00	38.23	A	C
ATOM	745	CG1	ILE	A	233	-60.989	66.950	52.831	1.00	38.23	A	C
ATOM	746	CD1	ILE	A	233	-61.877	66.705	53.997	1.00	38.23	A	C
ATOM	747	C	ILE	A	233	-61.206	64.428	51.243	1.00	23.53	A	C
ATOM	748	O	ILE	A	233	-60.645	64.320	50.153	1.00	23.99	A	O
ATOM	749	N	GLN	A	234	-62.522	64.483	51.374	1.00	21.22	A	N
ATOM	750	CA	GLN	A	234	-63.397	64.393	50.220	1.00	25.11	A	C
ATOM	751	CB	GLN	A	234	-63.876	62.943	50.098	1.00	48.22	A	C
ATOM	752	CG	GLN	A	234	-64.398	62.547	48.735	1.00	48.22	A	C
ATOM	753	CD	GLN	A	234	-63.305	62.416	47.696	1.00	48.22	A	C
ATOM	754	OE1	GLN	A	234	-63.574	62.413	46.495	1.00	48.22	A	O
ATOM	755	NE2	GLN	A	234	-62.066	62.304	48.152	1.00	48.22	A	N
ATOM	756	C	GLN	A	234	-64.589	65.358	50.354	1.00	26.06	A	C
ATOM	757	O	GLN	A	234	-65.215	65.446	51.413	1.00	26.04	A	O
ATOM	758	N	ASN	A	235	-64.887	66.107	49.299	1.00	30.72	A	N
ATOM	759	CA	ASN	A	235	-66.033	67.012	49.342	1.00	34.16	A	C
ATOM	760	CB	ASN	A	235	-66.007	68.003	48.172	1.00	31.14	A	C
ATOM	761	CG	ASN	A	235	-65.066	69.173	48.404	1.00	31.14	A	C
ATOM	762	OD1	ASN	A	235	-65.195	69.904	49.387	1.00	31.14	A	O
ATOM	763	ND2	ASN	A	235	-64.123	69.367	47.489	1.00	31.14	A	N
ATOM	764	C	ASN	A	235	-67.273	66.131	49.223	1.00	32.06	A	C
ATOM	765	O	ASN	A	235	-67.265	65.138	48.489	1.00	29.37	A	O
ATOM	766	N	MET	A	236	-68.334	66.484	49.943	1.00	41.64	A	N
ATOM	767	CA	MET	A	236	-69.578	65.713	49.900	1.00	41.64	A	C
ATOM	768	CB	MET	A	236	-70.001	65.321	51.313	1.00	41.32	A	C
ATOM	769	CG	MET	A	236	-68.985	64.474	52.049	1.00	41.32	A	C
ATOM	770	SD	MET	A	236	-68.726	62.868	51.262	1.00	41.32	A	S
ATOM	771	CE	MET	A	236	-67.235	63.185	50.457	1.00	41.32	A	C
ATOM	772	C	MET	A	236	-70.700	66.514	49.254	1.00	41.64	A	C
ATOM	773	O	MET	A	236	-70.779	67.729	49.421	1.00	41.64	A	O
ATOM	774	N	PRO	A	237	-71.582	65.845	48.497	1.00	28.15	A	N
ATOM	775	CD	PRO	A	237	-71.499	64.435	48.085	1.00	24.92	A	C
ATOM	776	CA	PRO	A	237	-72.709	66.503	47.829	1.00	28.15	A	C
ATOM	777	CB	PRO	A	237	-73.040	65.538	46.707	1.00	24.92	A	C
ATOM	778	CG	PRO	A	237	-72.830	64.234	47.364	1.00	24.92	A	C
ATOM	779	C	PRO	A	237	-73.895	66.701	48.785	1.00	28.15	A	C
ATOM	780	O	PRO	A	237	-73.902	66.182	49.907	1.00	28.15	A	O
ATOM	781	N	GLU	A	238	-74.894	67.452	48.331	1.00	62.90	A	N
ATOM	782	CA	GLU	A	238	-76.083	67.732	49.129	1.00	62.90	A	C
ATOM	783	CB	GLU	A	238	-76.895	68.853	48.481	1.00	124.39	A	C
ATOM	784	CG	GLU	A	238	-76.213	70.202	48.527	1.00	124.39	A	C
ATOM	785	CD	GLU	A	238	-76.111	70.742	49.936	1.00	124.39	A	C
ATOM	786	OE1	GLU	A	238	-75.604	70.017	50.819	1.00	124.39	A	O
ATOM	787	OE2	GLU	A	238	-76.538	71.894	50.159	1.00	124.39	A	O
ATOM	788	C	GLU	A	238	-76.960	66.502	49.293	1.00	62.90	A	C
ATOM	789	O	GLU	A	238	-77.446	66.220	50.387	1.00	62.90	A	O

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Figure 8-13

ATOM	790	N	THR	A	239	-77.153	65.768	48.202	1.00	52.51	A	N
ATOM	791	CA	THR	A	239	-77.986	64.571	48.226	1.00	52.51	A	C
ATOM	792	CB	THR	A	239	-79.141	64.695	47.217	1.00	59.41	A	C
ATOM	793	OG1	THR	A	239	-78.610	64.806	45.893	1.00	59.41	A	O
ATOM	794	CG2	THR	A	239	-79.973	65.930	47.522	1.00	59.41	A	C
ATOM	795	C	THR	A	239	-77.207	63.290	47.925	1.00	52.51	A	C
ATOM	796	O	THR	A	239	-76.210	63.311	47.204	1.00	52.51	A	O
ATOM	797	N	LEU	A	240	-77.678	62.177	48.487	1.00	27.52	A	N
ATOM	798	CA	LEU	A	240	-77.050	60.872	48.298	1.00	27.52	A	C
ATOM	799	CB	LEU	A	240	-77.364	60.323	46.904	1.00	44.77	A	C
ATOM	800	CG	LEU	A	240	-78.803	59.935	46.587	1.00	44.77	A	C
ATOM	801	CD1	LEU	A	240	-79.284	58.894	47.578	1.00	44.77	A	C
ATOM	802	CD2	LEU	A	240	-79.673	61.168	46.638	1.00	44.77	A	C
ATOM	803	C	LEU	A	240	-75.537	60.897	48.487	1.00	27.52	A	C
ATOM	804	O	LEU	A	240	-74.789	60.348	47.675	1.00	27.52	A	O
ATOM	805	N	PRO	A	241	-75.060	61.534	49.561	1.00	37.14	A	N
ATOM	806	CD	PRO	A	241	-75.750	61.991	50.776	1.00	35.36	A	C
ATOM	807	CA	PRO	A	241	-73.612	61.559	49.748	1.00	33.13	A	C
ATOM	808	CB	PRO	A	241	-73.453	62.234	51.104	1.00	35.36	A	C
ATOM	809	CG	PRO	A	241	-74.678	61.819	51.825	1.00	35.36	A	C
ATOM	810	C	PRO	A	241	-73.089	60.130	49.735	1.00	30.72	A	C
ATOM	811	O	PRO	A	241	-73.586	59.269	50.461	1.00	31.76	A	O
ATOM	812	N	ASN	A	242	-72.087	59.878	48.902	1.00	28.29	A	N
ATOM	813	CA	ASN	A	242	-71.539	58.541	48.797	1.00	25.06	A	C
ATOM	814	CB	ASN	A	242	-72.459	57.717	47.894	1.00	36.31	A	C
ATOM	815	CG	ASN	A	242	-72.681	56.322	48.411	1.00	36.31	A	C
ATOM	816	OD1	ASN	A	242	-73.570	55.617	47.952	1.00	36.31	A	O
ATOM	817	ND2	ASN	A	242	-71.869	55.909	49.365	1.00	36.31	A	N
ATOM	818	C	ASN	A	242	-70.109	58.553	48.255	1.00	22.62	A	C
ATOM	819	O	ASN	A	242	-69.881	58.234	47.095	1.00	22.75	A	O
ATOM	820	N	ASN	A	243	-69.148	58.913	49.103	1.00	29.72	A	N
ATOM	821	CA	ASN	A	243	-67.738	58.961	48.702	1.00	27.03	A	C
ATOM	822	CB	ASN	A	243	-67.243	60.400	48.686	1.00	31.41	A	C
ATOM	823	CG	ASN	A	243	-67.628	61.139	47.436	1.00	31.41	A	C
ATOM	824	OD1	ASN	A	243	-67.920	62.335	47.489	1.00	31.41	A	O
ATOM	825	ND2	ASN	A	243	-67.614	60.448	46.294	1.00	31.41	A	N
ATOM	826	C	ASN	A	243	-66.784	58.163	49.584	1.00	24.16	A	C
ATOM	827	O	ASN	A	243	-66.766	58.330	50.797	1.00	24.08	A	O
ATOM	828	N	SER	A	244	-65.983	57.299	48.972	1.00	18.03	A	N
ATOM	829	CA	SER	A	244	-64.992	56.532	49.726	1.00	18.03	A	C
ATOM	830	CB	SER	A	244	-64.826	55.105	49.156	1.00	14.19	A	C
ATOM	831	OG	SER	A	244	-64.351	55.086	47.814	1.00	14.19	A	O
ATOM	832	C	SER	A	244	-63.675	57.310	49.613	1.00	21.77	A	C
ATOM	833	O	SER	A	244	-63.454	58.015	48.644	1.00	27.09	A	O
ATOM	834	N	CYS	A	245	-62.807	57.193	50.607	1.00	39.93	A	N
ATOM	835	CA	CYS	A	245	-61.538	57.911	50.588	1.00	38.18	A	C
ATOM	836	C	CYS	A	245	-60.422	56.976	51.047	1.00	38.74	A	C
ATOM	837	O	CYS	A	245	-60.519	56.365	52.109	1.00	36.70	A	O
ATOM	838	CB	CYS	A	245	-61.617	59.117	51.525	1.00	46.50	A	C
ATOM	839	SG	CYS	A	245	-60.441	60.432	51.114	1.00	46.50	A	S
ATOM	840	N	TYR	A	246	-59.365	56.864	50.248	1.00	25.62	A	N
ATOM	841	CA	TYR	A	246	-58.246	55.988	50.586	1.00	22.34	A	C
ATOM	842	CB	TYR	A	246	-58.154	54.823	49.578	1.00	26.30	A	C
ATOM	843	CG	TYR	A	246	-56.892	53.971	49.677	1.00	26.30	A	C
ATOM	844	CD1	TYR	A	246	-56.933	52.656	50.150	1.00	26.30	A	C
ATOM	845	CE1	TYR	A	246	-55.768	51.867	50.210	1.00	26.30	A	C
ATOM	846	CD2	TYR	A	246	-55.657	54.476	49.275	1.00	26.30	A	C
ATOM	847	CE2	TYR	A	246	-54.498	53.704	49.333	1.00	26.30	A	C
ATOM	848	CZ	TYR	A	246	-54.560	52.405	49.794	1.00	26.30	A	C
ATOM	849	OH	TYR	A	246	-53.414	51.647	49.784	1.00	26.30	A	O
ATOM	850	C	TYR	A	246	-56.935	56.756	50.599	1.00	21.07	A	C
ATOM	851	O	TYR	A	246	-56.695	57.596	49.745	1.00	20.25	A	O
ATOM	852	N	SER	A	247	-56.088	56.469	51.578	1.00	39.60	A	N
ATOM	853	CA	SER	A	247	-54.789	57.113	51.648	1.00	38.30	A	C
ATOM	854	CB	SER	A	247	-54.869	58.421	52.419	1.00	23.05	A	C
ATOM	855	OG	SER	A	247	-53.639	59.118	52.325	1.00	23.05	A	O

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Figure 8-14

ATOM	856	C	SER	A	247	-53.820	56.159	52.326	1.00	37.52	A	C
ATOM	857	O	SER	A	247	-54.211	55.389	53.208	1.00	34.95	A	O
ATOM	858	N	ALA	A	248	-52.562	56.202	51.906	1.00	32.42	A	N
ATOM	859	CA	ALA	A	248	-51.562	55.315	52.465	1.00	32.75	A	C
ATOM	860	CB	ALA	A	248	-51.532	54.010	51.692	1.00	42.92	A	C
ATOM	861	C	ALA	A	248	-50.206	55.959	52.417	1.00	31.46	A	C
ATOM	862	O	ALA	A	248	-49.981	56.880	51.644	1.00	28.13	A	O
ATOM	863	N	GLY	A	249	-49.293	55.462	53.236	1.00	32.27	A	N
ATOM	864	CA	GLY	A	249	-47.964	56.024	53.252	1.00	24.49	A	C
ATOM	865	C	GLY	A	249	-47.035	55.143	54.040	1.00	28.72	A	C
ATOM	866	O	GLY	A	249	-47.474	54.151	54.613	1.00	26.54	A	O
ATOM	867	N	ILE	A	250	-45.753	55.487	54.061	1.00	19.33	A	N
ATOM	868	CA	ILE	A	250	-44.780	54.707	54.799	1.00	19.33	A	C
ATOM	869	CB	ILE	A	250	-43.584	54.339	53.907	1.00	3.80	A	C
ATOM	870	CG2	ILE	A	250	-42.557	53.541	54.706	1.00	3.80	A	C
ATOM	871	CG1	ILE	A	250	-44.076	53.531	52.702	1.00	3.80	A	C
ATOM	872	CD1	ILE	A	250	-42.967	53.016	51.801	1.00	3.80	A	C
ATOM	873	C	ILE	A	250	-44.315	55.553	55.968	1.00	19.33	A	C
ATOM	874	O	ILE	A	250	-44.194	56.769	55.858	1.00	19.33	A	O
ATOM	875	N	ALA	A	251	-44.070	54.910	57.098	1.00	15.77	A	N
ATOM	876	CA	ALA	A	251	-43.626	55.622	58.288	1.00	17.07	A	C
ATOM	877	CB	ALA	A	251	-44.826	56.194	59.033	1.00	1.00	A	C
ATOM	878	C	ALA	A	251	-42.854	54.683	59.192	1.00	20.28	A	C
ATOM	879	O	ALA	A	251	-43.148	53.489	59.255	1.00	19.81	A	O
ATOM	880	N	LYS	A	252	-41.852	55.213	59.879	1.00	18.06	A	N
ATOM	881	CA	LYS	A	252	-41.080	54.386	60.781	1.00	18.21	A	C
ATOM	882	CB	LYS	A	252	-39.631	54.861	60.847	1.00	60.73	A	C
ATOM	883	CG	LYS	A	252	-38.748	53.994	61.718	1.00	61.21	A	C
ATOM	884	CD	LYS	A	252	-37.286	54.239	61.403	1.00	61.21	A	C
ATOM	885	CE	LYS	A	252	-36.365	53.429	62.301	1.00	61.21	A	C
ATOM	886	NZ	LYS	A	252	-36.446	53.885	63.715	1.00	61.21	A	N
ATOM	887	C	LYS	A	252	-41.737	54.473	62.152	1.00	18.83	A	C
ATOM	888	O	LYS	A	252	-41.889	55.561	62.703	1.00	21.71	A	O
ATOM	889	N	LEU	A	253	-42.161	53.325	62.674	1.00	30.73	A	N
ATOM	890	CA	LEU	A	253	-42.804	53.248	63.980	1.00	30.46	A	C
ATOM	891	CB	LEU	A	253	-44.114	52.475	63.878	1.00	31.33	A	C
ATOM	892	CG	LEU	A	253	-45.361	53.099	63.249	1.00	32.87	A	C
ATOM	893	CD1	LEU	A	253	-45.021	54.352	62.469	1.00	27.67	A	C
ATOM	894	CD2	LEU	A	253	-46.029	52.052	62.367	1.00	29.17	A	C
ATOM	895	C	LEU	A	253	-41.896	52.540	64.985	1.00	31.82	A	C
ATOM	896	O	LEU	A	253	-41.090	51.683	64.610	1.00	29.40	A	O
ATOM	897	N	GLU	A	254	-42.029	52.908	66.258	1.00	27.67	A	N
ATOM	898	CA	GLU	A	254	-41.243	52.307	67.328	1.00	29.34	A	C
ATOM	899	CB	GLU	A	254	-40.733	53.365	68.301	1.00	101.70	A	C
ATOM	900	CG	GLU	A	254	-39.623	54.225	67.788	1.00	70.99	A	C
ATOM	901	CD	GLU	A	254	-39.003	55.024	68.905	1.00	70.99	A	C
ATOM	902	OE1	GLU	A	254	-38.453	54.403	69.843	1.00	70.99	A	O
ATOM	903	OE2	GLU	A	254	-39.072	56.271	68.854	1.00	70.99	A	O
ATOM	904	C	GLU	A	254	-42.105	51.331	68.106	1.00	30.13	A	C
ATOM	905	O	GLU	A	254	-43.312	51.529	68.253	1.00	29.85	A	O
ATOM	906	N	GLU	A	255	-41.486	50.269	68.607	1.00	34.67	A	N
ATOM	907	CA	GLU	A	255	-42.218	49.298	69.403	1.00	33.57	A	C
ATOM	908	CB	GLU	A	255	-41.272	48.275	70.017	1.00	54.58	A	C
ATOM	909	CG	GLU	A	255	-41.967	47.373	71.013	1.00	54.58	A	C
ATOM	910	CD	GLU	A	255	-41.031	46.386	71.669	1.00	54.58	A	C
ATOM	911	OE1	GLU	A	255	-41.509	45.612	72.527	1.00	54.58	A	O
ATOM	912	OE2	GLU	A	255	-39.824	46.381	71.327	1.00	54.58	A	O
ATOM	913	C	GLU	A	255	-42.938	50.048	70.519	1.00	36.02	A	C
ATOM	914	O	GLU	A	255	-42.333	50.834	71.246	1.00	39.25	A	O
ATOM	915	N	GLY	A	256	-44.235	49.801	70.646	1.00	15.06	A	N
ATOM	916	CA	GLY	A	256	-45.016	50.462	71.670	1.00	15.06	A	C
ATOM	917	C	GLY	A	256	-45.973	51.455	71.051	1.00	15.06	A	C
ATOM	918	O	GLY	A	256	-47.000	51.784	71.649	1.00	15.06	A	O
ATOM	919	N	ASP	A	257	-45.637	51.941	69.856	1.00	24.23	A	N
ATOM	920	CA	ASP	A	257	-46.495	52.893	69.167	1.00	27.51	A	C
ATOM	921	CB	ASP	A	257	-45.838	53.408	67.886	1.00	26.84	A	C

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Figure 8-15

ATOM	922	CG	ASP	A	257	-44.706	54.376	68.150	1.00	26.84	A	C
ATOM	923	OD1	ASP	A	257	-44.663	54.974	69.254	1.00	26.84	A	O
ATOM	924	OD2	ASP	A	257	-43.868	54.550	67.231	1.00	26.84	A	O
ATOM	925	C	ASP	A	257	-47.826	52.262	68.792	1.00	27.30	A	C
ATOM	926	O	ASP	A	257	-47.946	51.044	68.675	1.00	31.76	A	O
ATOM	927	N	GLU	A	258	-48.826	53.111	68.601	1.00	33.33	A	N
ATOM	928	CA	GLU	A	258	-50.143	52.657	68.203	1.00	29.99	A	C
ATOM	929	CB	GLU	A	258	-51.136	52.802	69.362	1.00	43.67	A	C
ATOM	930	CG	GLU	A	258	-50.989	51.768	70.465	1.00	43.67	A	C
ATOM	931	CD	GLU	A	258	-52.000	51.973	71.590	1.00	43.67	A	C
ATOM	932	OE1	GLU	A	258	-52.131	51.086	72.461	1.00	43.67	A	O
ATOM	933	OE2	GLU	A	258	-52.668	53.028	71.613	1.00	43.67	A	O
ATOM	934	C	GLU	A	258	-50.599	53.499	67.005	1.00	28.70	A	C
ATOM	935	O	GLU	A	258	-50.224	54.670	66.872	1.00	28.70	A	O
ATOM	936	N	LEU	A	259	-51.379	52.885	66.120	1.00	20.49	A	N
ATOM	937	CA	LEU	A	259	-51.919	53.575	64.964	1.00	16.96	A	C
ATOM	938	CB	LEU	A	259	-51.526	52.848	63.679	1.00	25.48	A	C
ATOM	939	CG	LEU	A	259	-50.040	52.747	63.320	1.00	25.48	A	C
ATOM	940	CD1	LEU	A	259	-49.887	51.817	62.131	1.00	25.48	A	C
ATOM	941	CD2	LEU	A	259	-49.468	54.131	62.995	1.00	25.48	A	C
ATOM	942	C	LEU	A	259	-53.426	53.522	65.144	1.00	14.30	A	C
ATOM	943	O	LEU	A	259	-53.957	52.488	65.550	1.00	18.38	A	O
ATOM	944	N	GLN	A	260	-54.115	54.625	64.869	1.00	24.43	A	N
ATOM	945	CA	GLN	A	260	-55.569	54.666	64.994	1.00	23.19	A	C
ATOM	946	CB	GLN	A	260	-55.971	55.331	66.306	1.00	27.44	A	C
ATOM	947	CG	GLN	A	260	-55.833	56.844	66.281	1.00	27.44	A	C
ATOM	948	CD	GLN	A	260	-56.076	57.495	67.635	1.00	27.44	A	C
ATOM	949	OE1	GLN	A	260	-56.260	58.718	67.727	1.00	27.44	A	O
ATOM	950	NE2	GLN	A	260	-56.063	56.685	68.700	1.00	27.44	A	N
ATOM	951	C	GLN	A	260	-56.130	55.472	63.832	1.00	23.18	A	C
ATOM	952	O	GLN	A	260	-55.459	56.369	63.318	1.00	20.71	A	O
ATOM	953	N	LEU	A	261	-57.350	55.156	63.408	1.00	33.18	A	N
ATOM	954	CA	LEU	A	261	-57.979	55.896	62.318	1.00	33.49	A	C
ATOM	955	CB	LEU	A	261	-58.547	54.919	61.285	1.00	12.53	A	C
ATOM	956	CG	LEU	A	261	-58.974	55.563	59.963	1.00	12.53	A	C
ATOM	957	CD1	LEU	A	261	-59.012	54.504	58.887	1.00	12.53	A	C
ATOM	958	CD2	LEU	A	261	-60.338	56.254	60.104	1.00	12.53	A	C
ATOM	959	C	LEU	A	261	-59.082	56.777	62.916	1.00	37.16	A	C
ATOM	960	O	LEU	A	261	-60.048	56.268	63.479	1.00	37.83	A	O
ATOM	961	N	ALA	A	262	-58.945	58.096	62.795	1.00	40.47	A	N
ATOM	962	CA	ALA	A	262	-59.930	59.014	63.375	1.00	42.87	A	C
ATOM	963	CB	ALA	A	262	-59.269	59.854	64.455	1.00	13.15	A	C
ATOM	964	C	ALA	A	262	-60.629	59.942	62.393	1.00	42.17	A	C
ATOM	965	O	ALA	A	262	-59.997	60.494	61.492	1.00	42.20	A	O
ATOM	966	N	ILE	A	263	-61.934	60.116	62.591	1.00	31.39	A	N
ATOM	967	CA	ILE	A	263	-62.742	61.005	61.761	1.00	30.43	A	C
ATOM	968	CB	ILE	A	263	-64.040	60.326	61.327	1.00	15.96	A	C
ATOM	969	CG2	ILE	A	263	-64.877	61.297	60.511	1.00	15.96	A	C
ATOM	970	CG1	ILE	A	263	-63.709	59.076	60.510	1.00	15.96	A	C
ATOM	971	CD1	ILE	A	263	-64.902	58.157	60.236	1.00	15.96	A	C
ATOM	972	C	ILE	A	263	-63.068	62.254	62.588	1.00	28.75	A	C
ATOM	973	O	ILE	A	263	-63.769	62.181	63.590	1.00	28.50	A	O
ATOM	974	N	PRO	A	264	-62.546	63.416	62.178	1.00	48.55	A	N
ATOM	975	CD	PRO	A	264	-61.648	63.569	61.030	1.00	25.68	A	C
ATOM	976	CA	PRO	A	264	-62.735	64.708	62.839	1.00	48.55	A	C
ATOM	977	CB	PRO	A	264	-61.709	65.601	62.149	1.00	25.68	A	C
ATOM	978	CG	PRO	A	264	-60.747	64.641	61.515	1.00	25.68	A	C
ATOM	979	C	PRO	A	264	-64.139	65.260	62.681	1.00	48.55	A	C
ATOM	980	O	PRO	A	264	-64.329	66.350	62.136	1.00	48.55	A	O
ATOM	981	N	ARG	A	265	-65.122	64.521	63.172	1.00	36.27	A	N
ATOM	982	CA	ARG	A	265	-66.509	64.943	63.058	1.00	36.27	A	C
ATOM	983	CB	ARG	A	265	-67.008	64.580	61.661	1.00	83.76	A	C
ATOM	984	CG	ARG	A	265	-68.466	64.844	61.413	1.00	83.76	A	C
ATOM	985	CD	ARG	A	265	-68.716	66.294	61.129	1.00	83.76	A	C
ATOM	986	NE	ARG	A	265	-70.137	66.540	60.930	1.00	83.76	A	N
ATOM	987	CZ	ARG	A	265	-70.647	67.727	60.629	1.00	83.76	A	C

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Figure 8-16

ATOM 988	NH1	ARG	A	265	-69.848	68.779	60.489	1.00	83.76	A	N
ATOM 989	NH2	ARG	A	265	-71.958	67.862	60.475	1.00	83.76	A	N
ATOM 990	C	ARG	A	265	-67.337	64.228	64.128	1.00	36.27	A	C
ATOM 991	O	ARG	A	265	-67.097	63.053	64.421	1.00	36.27	A	O
ATOM 992	N	GLU	A	266	-68.293	64.925	64.736	1.00	37.40	A	N
ATOM 993	CA	GLU	A	266	-69.136	64.283	65.744	1.00	37.40	A	C
ATOM 994	CB	GLU	A	266	-69.786	65.323	66.654	1.00	113.98	A	C
ATOM 995	CG	GLU	A	266	-68.827	65.887	67.684	1.00	113.98	A	C
ATOM 996	CD	GLU	A	266	-69.491	66.857	68.634	1.00	113.98	A	C
ATOM 997	OE1	GLU	A	266	-70.529	66.496	69.229	1.00	113.98	A	O
ATOM 998	OE2	GLU	A	266	-68.970	67.980	68.790	1.00	113.98	A	O
ATOM 999	C	GLU	A	266	-70.192	63.473	65.001	1.00	37.40	A	C
ATOM 1000	O	GLU	A	266	-70.912	64.001	64.152	1.00	37.40	A	O
ATOM 1001	N	ASN	A	267	-70.260	62.183	65.308	1.00	48.86	A	N
ATOM 1002	CA	ASN	A	267	-71.197	61.294	64.640	1.00	48.86	A	C
ATOM 1003	CB	ASN	A	267	-72.632	61.657	65.015	1.00	66.88	A	C
ATOM 1004	CG	ASN	A	267	-72.878	61.533	66.504	1.00	66.88	A	C
ATOM 1005	OD1	ASN	A	267	-72.486	62.398	67.283	1.00	66.88	A	O
ATOM 1006	ND2	ASN	A	267	-73.504	60.437	66.910	1.00	66.88	A	N
ATOM 1007	C	ASN	A	267	-70.968	61.411	63.143	1.00	48.86	A	C
ATOM 1008	O	ASN	A	267	-71.805	61.915	62.403	1.00	48.86	A	O
ATOM 1009	N	ALA	A	268	-69.806	60.927	62.722	1.00	65.74	A	N
ATOM 1010	CA	ALA	A	268	-69.374	60.962	61.336	1.00	65.74	A	C
ATOM 1011	CB	ALA	A	268	-68.239	59.978	61.130	1.00	167.67	A	C
ATOM 1012	C	ALA	A	268	-70.436	60.722	60.281	1.00	65.74	A	C
ATOM 1013	O	ALA	A	268	-70.705	61.607	59.466	1.00	65.74	A	O
ATOM 1014	N	GLN	A	269	-71.032	59.531	60.293	1.00	33.76	A	N
ATOM 1015	CA	GLN	A	269	-72.030	59.141	59.286	1.00	31.69	A	C
ATOM 1016	CB	GLN	A	269	-72.744	60.367	58.713	1.00	69.13	A	C
ATOM 1017	CG	GLN	A	269	-74.165	60.118	58.305	1.00	61.78	A	C
ATOM 1018	CD	GLN	A	269	-74.984	59.583	59.455	1.00	61.78	A	C
ATOM 1019	OE1	GLN	A	269	-74.812	60.007	60.597	1.00	61.78	A	O
ATOM 1020	NE2	GLN	A	269	-75.886	58.651	59.162	1.00	61.78	A	N
ATOM 1021	C	GLN	A	269	-71.231	58.447	58.171	1.00	32.38	A	C
ATOM 1022	O	GLN	A	269	-71.100	58.965	57.058	1.00	30.97	A	O
ATOM 1023	N	ILE	A	270	-70.688	57.276	58.493	1.00	40.21	A	N
ATOM 1024	CA	ILE	A	270	-69.868	56.522	57.561	1.00	38.42	A	C
ATOM 1025	CB	ILE	A	270	-68.524	56.236	58.195	1.00	17.05	A	C
ATOM 1026	CG2	ILE	A	270	-67.856	57.551	58.549	1.00	20.61	A	C
ATOM 1027	CG1	ILE	A	270	-68.715	55.411	59.469	1.00	20.61	A	C
ATOM 1028	CD1	ILE	A	270	-67.408	54.947	60.098	1.00	17.05	A	C
ATOM 1029	C	ILE	A	270	-70.528	55.225	57.110	1.00	38.06	A	C
ATOM 1030	O	ILE	A	270	-71.731	55.072	57.266	1.00	36.04	A	O
ATOM 1031	N	SER	A	271	-69.763	54.276	56.579	1.00	65.79	A	N
ATOM 1032	CA	SER	A	271	-70.395	53.063	56.085	1.00	66.45	A	C
ATOM 1033	CB	SER	A	271	-69.908	52.753	54.678	1.00	54.13	A	C
ATOM 1034	OG	SER	A	271	-70.721	51.744	54.100	1.00	48.89	A	O
ATOM 1035	C	SER	A	271	-70.349	51.785	56.899	1.00	63.76	A	C
ATOM 1036	O	SER	A	271	-71.299	51.003	56.857	1.00	65.12	A	O
ATOM 1037	N	LEU	A	272	-69.267	51.537	57.620	1.00	26.57	A	N
ATOM 1038	CA	LEU	A	272	-69.199	50.310	58.424	1.00	25.07	A	C
ATOM 1039	CB	LEU	A	272	-70.320	50.268	59.480	1.00	20.54	A	C
ATOM 1040	CG	LEU	A	272	-70.148	51.114	60.738	1.00	29.69	A	C
ATOM 1041	CD1	LEU	A	272	-68.972	50.600	61.521	1.00	29.69	A	C
ATOM 1042	CD2	LEU	A	272	-69.936	52.567	60.376	1.00	29.69	A	C
ATOM 1043	C	LEU	A	272	-69.256	49.025	57.602	1.00	31.43	A	C
ATOM 1044	O	LEU	A	272	-69.323	47.928	58.156	1.00	29.83	A	O
ATOM 1045	N	ASP	A	273	-69.246	49.163	56.285	1.00	29.93	A	N
ATOM 1046	CA	ASP	A	273	-69.254	48.010	55.389	1.00	25.10	A	C
ATOM 1047	CB	ASP	A	273	-69.742	48.449	54.007	1.00	76.29	A	C
ATOM 1048	CG	ASP	A	273	-70.758	47.505	53.424	1.00	76.29	A	C
ATOM 1049	OD1	ASP	A	273	-71.744	47.205	54.123	1.00	76.29	A	O
ATOM 1050	OD2	ASP	A	273	-70.574	47.086	52.264	1.00	76.29	A	O
ATOM 1051	C	ASP	A	273	-67.798	47.498	55.329	1.00	26.76	A	C
ATOM 1052	O	ASP	A	273	-66.911	48.186	54.804	1.00	30.09	A	O
ATOM 1053	N	GLY	A	274	-67.557	46.308	55.878	1.00	35.39	A	N

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Figure 8-17

ATOM 1054	CA	GLY A 274	-66.209	45.755	55.914	1.00	35.39	A	C
ATOM 1055	C	GLY A 274	-65.317	45.792	54.680	1.00	35.39	A	C
ATOM 1056	O	GLY A 274	-64.089	45.711	54.784	1.00	35.39	A	O
ATOM 1057	N	ASP A 275	-65.929	45.924	53.510	1.00	26.31	A	N
ATOM 1058	CA	ASP A 275	-65.200	45.965	52.246	1.00	26.31	A	C
ATOM 1059	CB	ASP A 275	-65.933	45.133	51.198	1.00	41.03	A	C
ATOM 1060	CG	ASP A 275	-67.265	45.741	50.800	1.00	41.03	A	C
ATOM 1061	OD1	ASP A 275	-67.655	46.758	51.402	1.00	41.03	A	O
ATOM 1062	OD2	ASP A 275	-67.922	45.207	49.887	1.00	41.03	A	O
ATOM 1063	C	ASP A 275	-65.011	47.376	51.680	1.00	26.31	A	C
ATOM 1064	O	ASP A 275	-64.562	47.546	50.543	1.00	26.31	A	O
ATOM 1065	N	VAL A 276	-65.374	48.390	52.448	1.00	26.43	A	N
ATOM 1066	CA	VAL A 276	-65.209	49.734	51.957	1.00	25.54	A	C
ATOM 1067	CB	VAL A 276	-66.563	50.334	51.484	1.00	11.27	A	C
ATOM 1068	CG1	VAL A 276	-67.453	50.678	52.663	1.00	11.27	A	C
ATOM 1069	CG2	VAL A 276	-66.307	51.562	50.621	1.00	11.27	A	C
ATOM 1070	C	VAL A 276	-64.575	50.597	53.035	1.00	23.65	A	C
ATOM 1071	O	VAL A 276	-64.008	51.653	52.736	1.00	24.04	A	O
ATOM 1072	N	THR A 277	-64.662	50.149	54.286	1.00	24.48	A	N
ATOM 1073	CA	THR A 277	-64.050	50.881	55.401	1.00	24.57	A	C
ATOM 1074	CB	THR A 277	-65.110	51.407	56.383	1.00	26.96	A	C
ATOM 1075	OG1	THR A 277	-65.940	52.365	55.711	1.00	27.69	A	O
ATOM 1076	CG2	THR A 277	-64.447	52.055	57.600	1.00	28.39	A	C
ATOM 1077	C	THR A 277	-63.104	49.927	56.129	1.00	22.84	A	C
ATOM 1078	O	THR A 277	-63.542	49.082	56.917	1.00	25.02	A	O
ATOM 1079	N	PHE A 278	-61.810	50.050	55.840	1.00	30.12	A	N
ATOM 1080	CA	PHE A 278	-60.790	49.193	56.443	1.00	24.29	A	C
ATOM 1081	CB	PHE A 278	-60.436	48.048	55.500	1.00	21.09	A	C
ATOM 1082	CG	PHE A 278	-60.224	48.481	54.090	1.00	21.09	A	C
ATOM 1083	CD1	PHE A 278	-58.953	48.791	53.625	1.00	21.09	A	C
ATOM 1084	CD2	PHE A 278	-61.307	48.591	53.217	1.00	21.09	A	C
ATOM 1085	CE1	PHE A 278	-58.763	49.210	52.302	1.00	21.09	A	C
ATOM 1086	CE2	PHE A 278	-61.127	49.007	51.902	1.00	21.09	A	C
ATOM 1087	CZ	PHE A 278	-59.853	49.317	51.442	1.00	21.09	A	C
ATOM 1088	C	PHE A 278	-59.538	49.968	56.812	1.00	26.75	A	C
ATOM 1089	O	PHE A 278	-59.319	51.078	56.348	1.00	31.91	A	O
ATOM 1090	N	PHE A 279	-58.713	49.355	57.643	1.00	35.32	A	N
ATOM 1091	CA	PHE A 279	-57.501	49.982	58.141	1.00	34.72	A	C
ATOM 1092	CB	PHE A 279	-57.834	50.557	59.517	1.00	23.76	A	C
ATOM 1093	CG	PHE A 279	-56.722	51.283	60.169	1.00	20.83	A	C
ATOM 1094	CD1	PHE A 279	-55.833	52.039	59.429	1.00	23.31	A	C
ATOM 1095	CD2	PHE A 279	-56.605	51.268	61.547	1.00	18.23	A	C
ATOM 1096	CE1	PHE A 279	-54.839	52.777	60.063	1.00	23.60	A	C
ATOM 1097	CE2	PHE A 279	-55.613	52.003	62.188	1.00	18.97	A	C
ATOM 1098	CZ	PHE A 279	-54.730	52.758	61.450	1.00	21.38	A	C
ATOM 1099	C	PHE A 279	-56.440	48.888	58.224	1.00	38.70	A	C
ATOM 1100	O	PHE A 279	-56.730	47.776	58.668	1.00	36.21	A	O
ATOM 1101	N	GLY A 280	-55.217	49.178	57.793	1.00	22.03	A	N
ATOM 1102	CA	GLY A 280	-54.195	48.143	57.833	1.00	22.72	A	C
ATOM 1103	C	GLY A 280	-52.753	48.613	57.817	1.00	22.60	A	C
ATOM 1104	O	GLY A 280	-52.456	49.763	57.472	1.00	22.27	A	O
ATOM 1105	N	ALA A 281	-51.848	47.713	58.193	1.00	20.07	A	N
ATOM 1106	CA	ALA A 281	-50.422	48.027	58.228	1.00	20.07	A	C
ATOM 1107	CB	ALA A 281	-49.993	48.422	59.637	1.00	19.34	A	C
ATOM 1108	C	ALA A 281	-49.630	46.825	57.770	1.00	20.07	A	C
ATOM 1109	O	ALA A 281	-49.928	45.687	58.151	1.00	20.07	A	O
ATOM 1110	N	LEU A 282	-48.618	47.085	56.951	1.00	35.65	A	N
ATOM 1111	CA	LEU A 282	-47.768	46.036	56.408	1.00	33.54	A	C
ATOM 1112	CB	LEU A 282	-47.929	45.977	54.886	1.00	24.27	A	C
ATOM 1113	CG	LEU A 282	-47.339	44.799	54.110	1.00	28.27	A	C
ATOM 1114	CD1	LEU A 282	-47.560	45.047	52.645	1.00	24.70	A	C
ATOM 1115	CD2	LEU A 282	-45.865	44.644	54.383	1.00	30.17	A	C
ATOM 1116	C	LEU A 282	-46.342	46.402	56.751	1.00	34.41	A	C
ATOM 1117	O	LEU A 282	-45.915	47.526	56.481	1.00	33.74	A	O
ATOM 1118	N	LYS A 283	-45.595	45.469	57.334	1.00	20.65	A	N
ATOM 1119	CA	LYS A 283	-44.213	45.778	57.680	1.00	22.16	A	C

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Figure 8-18

ATOM 1120	CB	LYS	A	283	-43.721	44.942	58.854	1.00	39.20	A	C
ATOM 1121	CG	LYS	A	283	-42.334	45.362	59.282	1.00	42.87	A	C
ATOM 1122	CD	LYS	A	283	-41.837	44.598	60.474	1.00	37.72	A	C
ATOM 1123	CE	LYS	A	283	-40.500	45.150	60.925	1.00	37.12	A	C
ATOM 1124	NZ	LYS	A	283	-39.971	44.391	62.090	1.00	39.04	A	N
ATOM 1125	C	LYS	A	283	-43.271	45.573	56.512	1.00	25.19	A	C
ATOM 1126	O	LYS	A	283	-43.171	44.481	55.973	1.00	24.26	A	O
ATOM 1127	N	LEU	A	284	-42.582	46.640	56.123	1.00	25.28	A	N
ATOM 1128	CA	LEU	A	284	-41.622	46.580	55.027	1.00	28.63	A	C
ATOM 1129	CB	LEU	A	284	-41.189	47.986	54.632	1.00	21.43	A	C
ATOM 1130	CG	LEU	A	284	-42.363	48.806	54.094	1.00	18.72	A	C
ATOM 1131	CD1	LEU	A	284	-41.902	50.199	53.700	1.00	17.64	A	C
ATOM 1132	CD2	LEU	A	284	-42.937	48.080	52.893	1.00	20.10	A	C
ATOM 1133	C	LEU	A	284	-40.419	45.773	55.461	1.00	31.30	A	C
ATOM 1134	O	LEU	A	284	-39.889	45.970	56.553	1.00	33.09	A	O
ATOM 1135	N	LEU	A	285	-39.997	44.856	54.601	1.00	43.85	A	N
ATOM 1136	CA	LEU	A	285	-38.859	43.999	54.897	1.00	43.85	A	C
ATOM 1137	CB	LEU	A	285	-38.687	42.962	53.800	1.00	52.46	A	C
ATOM 1138	CG	LEU	A	285	-38.053	41.667	54.290	1.00	52.46	A	C
ATOM 1139	CD1	LEU	A	285	-39.046	40.937	55.179	1.00	52.46	A	C
ATOM 1140	CD2	LEU	A	285	-37.674	40.798	53.105	1.00	52.46	A	C
ATOM 1141	C	LEU	A	285	-37.596	44.837	55.011	1.00	43.85	A	C
ATOM 1142	O	LEU	A	285	-36.750	44.543	55.880	1.00	45.31	A	O
ATOM 1143	OXT	LEU	A	285	-37.467	45.778	54.212	1.00	38.32	A	O
ATOM 1144	CB	VAL	B	142	-35.757	35.602	47.371	1.00	49.08	B	C
ATOM 1145	CG1	VAL	B	142	-35.492	34.699	48.563	1.00	49.08	B	C
ATOM 1146	CG2	VAL	B	142	-35.349	34.905	46.067	1.00	49.08	B	C
ATOM 1147	C	VAL	B	142	-37.416	37.091	46.294	1.00	71.08	B	C
ATOM 1148	O	VAL	B	142	-36.762	38.123	46.394	1.00	71.08	B	O
ATOM 1149	N	VAL	B	142	-38.102	34.797	47.007	1.00	71.08	B	N
ATOM 1150	CA	VAL	B	142	-37.253	35.983	47.323	1.00	71.08	B	C
ATOM 1151	N	THR	B	143	-38.287	36.882	45.311	1.00	87.68	B	N
ATOM 1152	CA	THR	B	143	-38.489	37.875	44.263	1.00	87.68	B	C
ATOM 1153	CB	THR	B	143	-38.383	37.242	42.877	1.00	102.21	B	C
ATOM 1154	OG1	THR	B	143	-39.257	36.114	42.810	1.00	102.21	B	O
ATOM 1155	CG2	THR	B	143	-36.961	36.801	42.600	1.00	102.21	B	C
ATOM 1156	C	THR	B	143	-39.799	38.650	44.317	1.00	87.68	B	C
ATOM 1157	O	THR	B	143	-39.967	39.619	43.579	1.00	87.68	B	O
ATOM 1158	N	GLN	B	144	-40.734	38.227	45.161	1.00	48.48	B	N
ATOM 1159	CA	GLN	B	144	-42.009	38.945	45.286	1.00	39.10	B	C
ATOM 1160	CB	GLN	B	144	-41.754	40.328	45.917	1.00	72.64	B	C
ATOM 1161	CG	GLN	B	144	-42.897	40.877	46.761	1.00	72.64	B	C
ATOM 1162	CD	GLN	B	144	-42.530	42.151	47.518	1.00	72.64	B	C
ATOM 1163	OE1	GLN	B	144	-43.267	42.599	48.400	1.00	19.85	B	O
ATOM 1164	NE2	GLN	B	144	-41.395	42.744	47.169	1.00	19.85	B	N
ATOM 1165	C	GLN	B	144	-42.726	39.112	43.933	1.00	36.29	B	C
ATOM 1166	O	GLN	B	144	-42.630	40.160	43.299	1.00	31.37	B	O
ATOM 1167	N	ASP	B	145	-43.448	38.082	43.497	1.00	35.35	B	N
ATOM 1168	CA	ASP	B	145	-44.165	38.144	42.221	1.00	35.06	B	C
ATOM 1169	CB	ASP	B	145	-44.838	36.804	41.889	1.00	26.66	B	C
ATOM 1170	CG	ASP	B	145	-43.895	35.634	41.965	1.00	44.57	B	C
ATOM 1171	OD1	ASP	B	145	-42.755	35.760	41.478	1.00	44.57	B	O
ATOM 1172	OD2	ASP	B	145	-44.303	34.581	42.499	1.00	44.57	B	O
ATOM 1173	C	ASP	B	145	-45.257	39.211	42.208	1.00	33.10	B	C
ATOM 1174	O	ASP	B	145	-45.759	39.620	43.255	1.00	32.07	B	O
ATOM 1175	N	CYS	B	146	-45.635	39.641	41.010	1.00	22.99	B	N
ATOM 1176	CA	CYS	B	146	-46.693	40.633	40.833	1.00	22.56	B	C
ATOM 1177	CB	CYS	B	146	-46.238	42.015	41.310	1.00	38.64	B	C
ATOM 1178	SG	CYS	B	146	-44.770	42.626	40.490	1.00	49.96	B	S
ATOM 1179	C	CYS	B	146	-47.123	40.721	39.371	1.00	23.93	B	C
ATOM 1180	O	CYS	B	146	-46.330	40.512	38.457	1.00	21.85	B	O
ATOM 1181	N	LEU	B	147	-48.391	41.027	39.151	1.00	24.70	B	N
ATOM 1182	CA	LEU	B	147	-48.910	41.144	37.804	1.00	24.70	B	C
ATOM 1183	CB	LEU	B	147	-49.687	39.890	37.448	1.00	22.55	B	C
ATOM 1184	CG	LEU	B	147	-50.410	39.903	36.103	1.00	22.55	B	C
ATOM 1185	CD1	LEU	B	147	-50.612	38.468	35.663	1.00	27.08	B	C

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Figure 8-19

ATOM 1186	CD2	LEU	B	147	-51.741	40.650	36.206	1.00	27.08	B	C
ATOM 1187	C	LEU	B	147	-49.812	42.365	37.734	1.00	24.70	B	C
ATOM 1188	O	LEU	B	147	-50.566	42.638	38.664	1.00	25.86	B	O
ATOM 1189	N	GLN	B	148	-49.745	43.095	36.629	1.00	40.96	B	N
ATOM 1190	CA	GLN	B	148	-50.548	44.297	36.488	1.00	40.98	B	C
ATOM 1191	CB	GLN	B	148	-49.651	45.513	36.676	1.00	18.87	B	C
ATOM 1192	CG	GLN	B	148	-50.351	46.860	36.637	1.00	26.33	B	C
ATOM 1193	CD	GLN	B	148	-49.418	47.999	37.050	1.00	26.33	B	C
ATOM 1194	OE1	GLN	B	148	-49.361	48.389	38.222	1.00	26.33	B	O
ATOM 1195	NE2	GLN	B	148	-48.663	48.519	36.087	1.00	26.33	B	N
ATOM 1196	C	GLN	B	148	-51.260	44.377	35.147	1.00	42.10	B	C
ATOM 1197	O	GLN	B	148	-50.687	44.075	34.107	1.00	42.61	B	O
ATOM 1198	N	LEU	B	149	-52.519	44.787	35.188	1.00	35.19	B	N
ATOM 1199	CA	LEU	B	149	-53.334	44.927	33.998	1.00	33.92	B	C
ATOM 1200	CB	LEU	B	149	-54.633	44.137	34.170	1.00	24.71	B	C
ATOM 1201	CG	LEU	B	149	-54.735	42.654	33.803	1.00	24.71	B	C
ATOM 1202	CD1	LEU	B	149	-53.369	42.042	33.600	1.00	24.71	B	C
ATOM 1203	CD2	LEU	B	149	-55.500	41.926	34.896	1.00	12.01	B	C
ATOM 1204	C	LEU	B	149	-53.666	46.405	33.787	1.00	35.57	B	C
ATOM 1205	O	LEU	B	149	-53.813	47.159	34.747	1.00	35.96	B	O
ATOM 1206	N	ILE	B	150	-53.775	46.822	32.530	1.00	14.22	B	N
ATOM 1207	CA	ILE	B	150	-54.134	48.208	32.211	1.00	13.09	B	C
ATOM 1208	CB	ILE	B	150	-52.937	49.004	31.671	1.00	14.59	B	C
ATOM 1209	CG2	ILE	B	150	-51.810	48.976	32.694	1.00	14.59	B	C
ATOM 1210	CG1	ILE	B	150	-52.478	48.411	30.347	1.00	18.71	B	C
ATOM 1211	CD1	ILE	B	150	-51.239	49.024	29.813	1.00	18.71	B	C
ATOM 1212	C	ILE	B	150	-55.245	48.195	31.168	1.00	17.19	B	C
ATOM 1213	O	ILE	B	150	-55.300	47.313	30.319	1.00	18.24	B	O
ATOM 1214	N	ALA	B	151	-56.140	49.165	31.255	1.00	35.70	B	N
ATOM 1215	CA	ALA	B	151	-57.262	49.237	30.336	1.00	35.70	B	C
ATOM 1216	CB	ALA	B	151	-58.069	50.497	30.603	1.00	2.44	B	C
ATOM 1217	C	ALA	B	151	-56.848	49.179	28.871	1.00	35.70	B	C
ATOM 1218	O	ALA	B	151	-55.824	49.737	28.473	1.00	35.70	B	O
ATOM 1219	N	ASP	B	152	-57.657	48.486	28.074	1.00	36.73	B	N
ATOM 1220	CA	ASP	B	152	-57.415	48.346	26.645	1.00	36.73	B	C
ATOM 1221	CB	ASP	B	152	-57.753	46.927	26.189	1.00	47.68	B	C
ATOM 1222	CG	ASP	B	152	-57.572	46.737	24.693	1.00	47.68	B	C
ATOM 1223	OD1	ASP	B	152	-57.959	45.672	24.182	1.00	47.68	B	O
ATOM 1224	OD2	ASP	B	152	-57.040	47.648	24.027	1.00	47.68	B	O
ATOM 1225	C	ASP	B	152	-58.303	49.344	25.911	1.00	36.73	B	C
ATOM 1226	O	ASP	B	152	-59.488	49.090	25.697	1.00	36.73	B	O
ATOM 1227	N	SER	B	153	-57.727	50.477	25.525	1.00	44.17	B	N
ATOM 1228	CA	SER	B	153	-58.476	51.520	24.831	1.00	44.17	B	C
ATOM 1229	CB	SER	B	153	-57.638	52.791	24.759	1.00	62.60	B	C
ATOM 1230	OG	SER	B	153	-56.379	52.517	24.175	1.00	62.60	B	O
ATOM 1231	C	SER	B	153	-58.894	51.118	23.425	1.00	44.17	B	C
ATOM 1232	O	SER	B	153	-59.531	51.894	22.718	1.00	44.17	B	O
ATOM 1233	N	GLU	B	154	-58.543	49.901	23.029	1.00	57.97	B	N
ATOM 1234	CA	GLU	B	154	-58.858	49.405	21.700	1.00	57.97	B	C
ATOM 1235	CB	GLU	B	154	-57.711	48.529	21.199	1.00	101.74	B	C
ATOM 1236	CG	GLU	B	154	-57.398	48.712	19.741	1.00	101.74	B	C
ATOM 1237	CD	GLU	B	154	-56.839	50.081	19.464	1.00	101.74	B	C
ATOM 1238	OE1	GLU	B	154	-55.705	50.349	19.909	1.00	101.74	B	O
ATOM 1239	OE2	GLU	B	154	-57.534	50.891	18.814	1.00	101.74	B	O
ATOM 1240	C	GLU	B	154	-60.151	48.595	21.667	1.00	57.97	B	C
ATOM 1241	O	GLU	B	154	-60.787	48.468	20.625	1.00	57.97	B	O
ATOM 1242	N	THR	B	155	-60.537	48.052	22.815	1.00	45.91	B	N
ATOM 1243	CA	THR	B	155	-61.729	47.217	22.908	1.00	45.91	B	C
ATOM 1244	CB	THR	B	155	-61.389	45.897	23.586	1.00	42.29	B	C
ATOM 1245	OG1	THR	B	155	-60.382	45.231	22.821	1.00	42.29	B	O
ATOM 1246	CG2	THR	B	155	-62.620	45.010	23.707	1.00	42.29	B	C
ATOM 1247	C	THR	B	155	-62.871	47.837	23.684	1.00	45.91	B	C
ATOM 1248	O	THR	B	155	-62.651	48.571	24.640	1.00	45.91	B	O
ATOM 1249	N	PRO	B	156	-64.117	47.544	23.279	1.00	41.63	B	N
ATOM 1250	CD	PRO	B	156	-64.547	46.799	22.082	1.00	50.27	B	C
ATOM 1251	CA	PRO	B	156	-65.278	48.094	23.983	1.00	41.63	B	C

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Figure 8-20

ATOM 1252	CB	PRO	B	156	-66.427	47.795	23.023	1.00	50.27	B	C
ATOM 1253	CG	PRO	B	156	-65.996	46.514	22.393	1.00	50.27	B	C
ATOM 1254	C	PRO	B	156	-65.448	47.403	25.339	1.00	41.63	B	C
ATOM 1255	O	PRO	B	156	-65.051	46.247	25.515	1.00	41.63	B	O
ATOM 1256	N	THR	B	157	-66.029	48.120	26.293	1.00	32.98	B	N
ATOM 1257	CA	THR	B	157	-66.240	47.564	27.620	1.00	32.98	B	C
ATOM 1258	CB	THR	B	157	-66.884	48.593	28.561	1.00	34.48	B	C
ATOM 1259	OG1	THR	B	157	-68.231	48.863	28.147	1.00	34.48	B	O
ATOM 1260	CG2	THR	B	157	-66.101	49.875	28.524	1.00	34.48	B	C
ATOM 1261	C	THR	B	157	-67.141	46.347	27.521	1.00	32.98	B	C
ATOM 1262	O	THR	B	157	-68.032	46.295	26.681	1.00	32.98	B	O
ATOM 1263	N	ILE	B	158	-66.908	45.373	28.386	1.00	48.85	B	N
ATOM 1264	CA	ILE	B	158	-67.686	44.141	28.390	1.00	48.85	B	C
ATOM 1265	CB	ILE	B	158	-66.841	42.991	28.934	1.00	34.29	B	C
ATOM 1266	CG2	ILE	B	158	-67.599	41.696	28.841	1.00	34.29	B	C
ATOM 1267	CG1	ILE	B	158	-65.543	42.896	28.151	1.00	34.29	B	C
ATOM 1268	CD1	ILE	B	158	-64.601	41.860	28.692	1.00	34.29	B	C
ATOM 1269	C	ILE	B	158	-68.956	44.228	29.233	1.00	48.85	B	C
ATOM 1270	O	ILE	B	158	-68.911	44.640	30.394	1.00	48.85	B	O
ATOM 1271	N	GLN	B	159	-70.085	43.830	28.654	1.00	49.07	B	N
ATOM 1272	CA	GLN	B	159	-71.353	43.849	29.373	1.00	49.07	B	C
ATOM 1273	CB	GLN	B	159	-72.446	44.422	28.486	1.00	65.88	B	C
ATOM 1274	CG	GLN	B	159	-72.157	45.843	28.097	1.00	65.88	B	C
ATOM 1275	CD	GLN	B	159	-71.989	46.734	29.306	1.00	65.88	B	C
ATOM 1276	OE1	GLN	B	159	-71.252	47.719	29.264	1.00	65.88	B	O
ATOM 1277	NE2	GLN	B	159	-72.680	46.397	30.395	1.00	65.88	B	N
ATOM 1278	C	GLN	B	159	-71.696	42.431	29.775	1.00	49.07	B	C
ATOM 1279	O	GLN	B	159	-71.629	41.529	28.953	1.00	49.07	B	O
ATOM 1280	N	LYS	B	160	-72.063	42.225	31.034	1.00	70.14	B	N
ATOM 1281	CA	LYS	B	160	-72.381	40.879	31.483	1.00	70.14	B	C
ATOM 1282	CB	LYS	B	160	-71.094	40.054	31.518	1.00	98.39	B	C
ATOM 1283	CG	LYS	B	160	-71.267	38.591	31.857	1.00	71.77	B	C
ATOM 1284	CD	LYS	B	160	-69.929	37.872	31.738	1.00	71.77	B	C
ATOM 1285	CE	LYS	B	160	-70.066	36.370	31.950	1.00	71.77	B	C
ATOM 1286	NZ	LYS	B	160	-68.769	35.651	31.755	1.00	71.77	B	N
ATOM 1287	C	LYS	B	160	-73.044	40.874	32.854	1.00	70.14	B	C
ATOM 1288	O	LYS	B	160	-72.461	41.323	33.836	1.00	70.14	B	O
ATOM 1289	N	GLY	B	161	-74.270	40.367	32.914	1.00	82.42	B	N
ATOM 1290	CA	GLY	B	161	-74.982	40.303	34.177	1.00	82.42	B	C
ATOM 1291	C	GLY	B	161	-75.251	41.647	34.821	1.00	82.42	B	C
ATOM 1292	O	GLY	B	161	-75.086	41.803	36.027	1.00	82.42	B	O
ATOM 1293	N	SER	B	162	-75.663	42.620	34.018	1.00	73.45	B	N
ATOM 1294	CA	SER	B	162	-75.967	43.954	34.521	1.00	73.45	B	C
ATOM 1295	CB	SER	B	162	-76.998	43.877	35.651	1.00	142.75	B	C
ATOM 1296	OG	SER	B	162	-77.377	45.173	36.085	1.00	142.75	B	O
ATOM 1297	C	SER	B	162	-74.725	44.695	35.005	1.00	73.45	B	C
ATOM 1298	O	SER	B	162	-74.802	45.863	35.394	1.00	73.45	B	O
ATOM 1299	N	TYR	B	163	-73.587	44.008	35.000	1.00	57.23	B	N
ATOM 1300	CA	TYR	B	163	-72.323	44.623	35.397	1.00	57.23	B	C
ATOM 1301	CB	TYR	B	163	-71.421	43.642	36.156	1.00	60.94	B	C
ATOM 1302	CG	TYR	B	163	-71.741	43.413	37.614	1.00	60.94	B	C
ATOM 1303	CD1	TYR	B	163	-72.576	44.274	38.317	1.00	60.94	B	C
ATOM 1304	CE1	TYR	B	163	-72.835	44.074	39.670	1.00	60.94	B	C
ATOM 1305	CD2	TYR	B	163	-71.169	42.342	38.301	1.00	60.94	B	C
ATOM 1306	CE2	TYR	B	163	-71.414	42.133	39.648	1.00	60.94	B	C
ATOM 1307	CZ	TYR	B	163	-72.249	42.999	40.329	1.00	60.94	B	C
ATOM 1308	OH	TYR	B	163	-72.503	42.783	41.666	1.00	60.94	B	O
ATOM 1309	C	TYR	B	163	-71.588	45.026	34.124	1.00	57.23	B	C
ATOM 1310	O	TYR	B	163	-72.013	44.707	33.009	1.00	57.23	B	O
ATOM 1311	N	THR	B	164	-70.476	45.724	34.299	1.00	37.58	B	N
ATOM 1312	CA	THR	B	164	-69.649	46.137	33.175	1.00	37.58	B	C
ATOM 1313	CB	THR	B	164	-69.933	47.589	32.780	1.00	20.95	B	C
ATOM 1314	OG1	THR	B	164	-68.931	48.040	31.862	1.00	20.95	B	O
ATOM 1315	CG2	THR	B	164	-69.933	48.450	33.987	1.00	20.95	B	C
ATOM 1316	C	THR	B	164	-68.181	45.960	33.573	1.00	37.58	B	C
ATOM 1317	O	THR	B	164	-67.744	46.453	34.614	1.00	37.58	B	O

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Figure 8-21

ATOM 1318	N	PHE B 165	-67.442	45.226	32.744	1.00	38.01	B	N
ATOM 1319	CA	PHE B 165	-66.034	44.930	32.991	1.00	38.01	B	C
ATOM 1320	CB	PHE B 165	-65.799	43.423	32.929	1.00	38.65	B	C
ATOM 1321	CG	PHE B 165	-66.700	42.644	33.828	1.00	38.65	B	C
ATOM 1322	CD1	PHE B 165	-68.027	42.425	33.476	1.00	38.65	B	C
ATOM 1323	CD2	PHE B 165	-66.244	42.183	35.057	1.00	38.65	B	C
ATOM 1324	CE1	PHE B 165	-68.890	41.763	34.340	1.00	38.65	B	C
ATOM 1325	CE2	PHE B 165	-67.094	41.518	35.933	1.00	38.65	B	C
ATOM 1326	CZ	PHE B 165	-68.421	41.307	35.577	1.00	38.65	B	C
ATOM 1327	C	PHE B 165	-65.130	45.607	31.986	1.00	38.01	B	C
ATOM 1328	O	PHE B 165	-65.461	45.696	30.803	1.00	38.01	B	O
ATOM 1329	N	VAL B 166	-63.977	46.077	32.445	1.00	26.54	B	N
ATOM 1330	CA	VAL B 166	-63.073	46.739	31.526	1.00	26.54	B	C
ATOM 1331	CB	VAL B 166	-62.207	47.833	32.230	1.00	11.81	B	C
ATOM 1332	CG1	VAL B 166	-62.641	48.000	33.658	1.00	11.81	B	C
ATOM 1333	CG2	VAL B 166	-60.736	47.494	32.136	1.00	11.81	B	C
ATOM 1334	C	VAL B 166	-62.179	45.712	30.848	1.00	26.54	B	C
ATOM 1335	O	VAL B 166	-61.790	44.713	31.449	1.00	26.54	B	O
ATOM 1336	N	PRO B 167	-61.874	45.936	29.565	1.00	30.50	B	N
ATOM 1337	CD	PRO B 167	-62.437	47.007	28.732	1.00	41.12	B	C
ATOM 1338	CA	PRO B 167	-61.026	45.056	28.764	1.00	30.50	B	C
ATOM 1339	CB	PRO B 167	-61.192	45.605	27.350	1.00	41.12	B	C
ATOM 1340	CG	PRO B 167	-62.491	46.340	27.400	1.00	41.12	B	C
ATOM 1341	C	PRO B 167	-59.603	45.247	29.254	1.00	30.50	B	C
ATOM 1342	O	PRO B 167	-59.071	46.352	29.170	1.00	30.50	B	O
ATOM 1343	N	TRP B 168	-58.980	44.192	29.761	1.00	35.05	B	N
ATOM 1344	CA	TRP B 168	-57.614	44.326	30.253	1.00	36.28	B	C
ATOM 1345	CB	TRP B 168	-57.402	43.506	31.529	1.00	22.16	B	C
ATOM 1346	CG	TRP B 168	-58.251	43.948	32.664	1.00	16.42	B	C
ATOM 1347	CD2	TRP B 168	-58.264	45.248	33.270	1.00	16.99	B	C
ATOM 1348	CE2	TRP B 168	-59.263	45.226	34.278	1.00	16.38	B	C
ATOM 1349	CE3	TRP B 168	-57.531	46.430	33.061	1.00	18.12	B	C
ATOM 1350	CD1	TRP B 168	-59.206	43.212	33.307	1.00	19.27	B	C
ATOM 1351	NE1	TRP B 168	-59.818	43.973	34.276	1.00	22.25	B	N
ATOM 1352	CZ2	TRP B 168	-59.550	46.344	35.077	1.00	16.14	B	C
ATOM 1353	CZ3	TRP B 168	-57.816	47.547	33.858	1.00	21.88	B	C
ATOM 1354	CH2	TRP B 168	-58.817	47.491	34.854	1.00	20.09	B	C
ATOM 1355	C	TRP B 168	-56.559	43.925	29.250	1.00	36.59	B	C
ATOM 1356	O	TRP B 168	-56.759	43.038	28.428	1.00	38.25	B	O
ATOM 1357	N	LEU B 169	-55.426	44.599	29.349	1.00	36.26	B	N
ATOM 1358	CA	LEU B 169	-54.279	44.349	28.503	1.00	36.73	B	C
ATOM 1359	CB	LEU B 169	-54.008	45.580	27.652	1.00	29.10	B	C
ATOM 1360	CG	LEU B 169	-53.799	45.321	26.170	1.00	29.10	B	C
ATOM 1361	CD1	LEU B 169	-54.017	46.610	25.412	1.00	29.10	B	C
ATOM 1362	CD2	LEU B 169	-52.395	44.767	25.947	1.00	29.10	B	C
ATOM 1363	C	LEU B 169	-53.159	44.122	29.509	1.00	37.36	B	C
ATOM 1364	O	LEU B 169	-53.025	44.884	30.467	1.00	35.71	B	O
ATOM 1365	N	LEU B 170	-52.365	43.077	29.323	1.00	24.83	B	N
ATOM 1366	CA	LEU B 170	-51.296	42.800	30.278	1.00	24.83	B	C
ATOM 1367	CB	LEU B 170	-50.668	41.435	30.020	1.00	34.30	B	C
ATOM 1368	CG	LEU B 170	-49.474	41.179	30.943	1.00	34.30	B	C
ATOM 1369	CD1	LEU B 170	-49.967	40.975	32.365	1.00	34.30	B	C
ATOM 1370	CD2	LEU B 170	-48.716	39.963	30.482	1.00	34.30	B	C
ATOM 1371	C	LEU B 170	-50.185	43.834	30.304	1.00	24.83	B	C
ATOM 1372	O	LEU B 170	-49.407	43.931	29.367	1.00	25.58	B	O
ATOM 1373	N	SER B 171	-50.112	44.599	31.385	1.00	49.53	B	N
ATOM 1374	CA	SER B 171	-49.064	45.600	31.537	1.00	49.54	B	C
ATOM 1375	CB	SER B 171	-49.305	46.450	32.788	1.00	52.35	B	C
ATOM 1376	OG	SER B 171	-48.149	47.194	33.133	1.00	52.35	B	O
ATOM 1377	C	SER B 171	-47.749	44.850	31.679	1.00	47.93	B	O
ATOM 1378	O	SER B 171	-46.793	45.118	30.968	1.00	47.63	B	O
ATOM 1379	N	PHE B 172	-47.709	43.908	32.610	1.00	39.25	B	N
ATOM 1380	CA	PHE B 172	-46.523	43.114	32.830	1.00	35.77	B	C
ATOM 1381	CB	PHE B 172	-45.381	43.987	33.357	1.00	63.68	B	C
ATOM 1382	CG	PHE B 172	-45.455	44.262	34.823	1.00	42.34	B	C
ATOM 1383	CD1	PHE B 172	-45.047	43.301	35.745	1.00	42.34	B	C

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Figure 8-22

ATOM 1384	CD2	PHE	B	172	-45.977	45.466	35.292	1.00	42.34	B	C
ATOM 1385	CE1	PHE	B	172	-45.162	43.529	37.125	1.00	42.34	B	C
ATOM 1386	CE2	PHE	B	172	-46.097	45.711	36.666	1.00	42.34	B	C
ATOM 1387	CZ	PHE	B	172	-45.688	44.735	37.587	1.00	42.34	B	C
ATOM 1388	C	PHE	B	172	-46.855	42.015	33.828	1.00	37.31	B	C
ATOM 1389	O	PHE	B	172	-47.758	42.158	34.656	1.00	38.10	B	O
ATOM 1390	N	LYS	B	173	-46.124	40.913	33.733	1.00	32.63	B	N
ATOM 1391	CA	LYS	B	173	-46.302	39.777	34.613	1.00	31.67	B	C
ATOM 1392	CB	LYS	B	173	-46.837	38.581	33.825	1.00	25.94	B	C
ATOM 1393	CG	LYS	B	173	-46.812	37.254	34.552	1.00	44.94	B	C
ATOM 1394	CD	LYS	B	173	-47.246	36.142	33.616	1.00	44.94	B	C
ATOM 1395	CE	LYS	B	173	-47.277	34.805	34.323	1.00	44.94	B	C
ATOM 1396	NZ	LYS	B	173	-45.933	34.458	34.869	1.00	44.94	B	N
ATOM 1397	C	LYS	B	173	-44.913	39.488	35.121	1.00	33.45	B	C
ATOM 1398	O	LYS	B	173	-43.970	39.451	34.345	1.00	34.94	B	O
ATOM 1399	N	ARG	B	174	-44.775	39.308	36.422	1.00	24.34	B	N
ATOM 1400	CA	ARG	B	174	-43.473	39.026	36.994	1.00	24.34	B	C
ATOM 1401	CB	ARG	B	174	-42.934	40.265	37.699	1.00	43.38	B	C
ATOM 1402	CG	ARG	B	174	-41.536	40.107	38.244	1.00	43.38	B	C
ATOM 1403	CD	ARG	B	174	-41.219	41.194	39.241	1.00	43.38	B	C
ATOM 1404	NE	ARG	B	174	-39.853	41.086	39.733	1.00	43.38	B	N
ATOM 1405	CZ	ARG	B	174	-39.478	41.412	40.967	1.00	43.38	B	C
ATOM 1406	NH1	ARG	B	174	-40.370	41.864	41.837	1.00	43.38	B	N
ATOM 1407	NH2	ARG	B	174	-38.210	41.287	41.337	1.00	43.38	B	N
ATOM 1408	C	ARG	B	174	-43.593	37.890	37.995	1.00	24.34	B	C
ATOM 1409	O	ARG	B	174	-44.215	38.046	39.051	1.00	24.34	B	O
ATOM 1410	N	GLY	B	175	-43.013	36.740	37.664	1.00	23.89	B	N
ATOM 1411	CA	GLY	B	175	-43.073	35.617	38.579	1.00	23.89	B	C
ATOM 1412	C	GLY	B	175	-44.037	34.516	38.192	1.00	23.89	B	C
ATOM 1413	O	GLY	B	175	-44.729	34.597	37.171	1.00	23.89	B	O
ATOM 1414	N	SER	B	176	-44.075	33.485	39.035	1.00	40.34	B	N
ATOM 1415	CA	SER	B	176	-44.916	32.311	38.838	1.00	40.34	B	C
ATOM 1416	CB	SER	B	176	-44.294	31.116	39.557	1.00	65.04	B	C
ATOM 1417	OG	SER	B	176	-43.878	31.476	40.866	1.00	65.04	B	O
ATOM 1418	C	SER	B	176	-46.349	32.500	39.303	1.00	40.34	B	C
ATOM 1419	O	SER	B	176	-47.268	32.282	38.533	1.00	40.34	B	O
ATOM 1420	N	ALA	B	177	-46.543	32.890	40.557	1.00	51.80	B	N
ATOM 1421	CA	ALA	B	177	-47.893	33.100	41.078	1.00	51.80	B	C
ATOM 1422	CB	ALA	B	177	-47.844	33.481	42.544	1.00	40.00	B	C
ATOM 1423	C	ALA	B	177	-48.486	34.232	40.283	1.00	51.80	B	C
ATOM 1424	O	ALA	B	177	-47.747	35.073	39.764	1.00	51.80	B	O
ATOM 1425	N	LEU	B	178	-49.806	34.270	40.173	1.00	36.61	B	N
ATOM 1426	CA	LEU	B	178	-50.432	35.354	39.415	1.00	36.61	B	C
ATOM 1427	CB	LEU	B	178	-49.998	36.708	39.984	1.00	44.28	B	C
ATOM 1428	CG	LEU	B	178	-50.826	37.411	41.056	1.00	25.35	B	C
ATOM 1429	CD1	LEU	B	178	-51.522	36.410	41.968	1.00	25.35	B	C
ATOM 1430	CD2	LEU	B	178	-49.899	38.329	41.837	1.00	25.35	B	C
ATOM 1431	C	LEU	B	178	-50.126	35.357	37.915	1.00	36.61	B	C
ATOM 1432	O	LEU	B	178	-48.979	35.501	37.500	1.00	36.61	B	O
ATOM 1433	N	GLU	B	179	-51.164	35.186	37.108	1.00	37.67	B	N
ATOM 1434	CA	GLU	B	179	-51.048	35.231	35.658	1.00	37.67	B	C
ATOM 1435	CB	GLU	B	179	-50.589	33.892	35.078	1.00	89.63	B	C
ATOM 1436	CG	GLU	B	179	-51.415	32.696	35.447	1.00	38.83	B	C
ATOM 1437	CD	GLU	B	179	-50.775	31.383	34.980	1.00	38.83	B	C
ATOM 1438	OE1	GLU	B	179	-49.642	31.068	35.426	1.00	38.83	B	O
ATOM 1439	OE2	GLU	B	179	-51.406	30.667	34.169	1.00	38.83	B	O
ATOM 1440	C	GLU	B	179	-52.437	35.613	35.194	1.00	37.67	B	C
ATOM 1441	O	GLU	B	179	-53.393	35.462	35.945	1.00	37.67	B	O
ATOM 1442	N	GLU	B	180	-52.554	36.156	33.989	1.00	37.08	B	N
ATOM 1443	CA	GLU	B	180	-53.858	36.582	33.483	1.00	37.08	B	C
ATOM 1444	CB	GLU	B	180	-53.672	37.676	32.441	1.00	44.73	B	C
ATOM 1445	CG	GLU	B	180	-54.924	38.041	31.684	1.00	44.73	B	C
ATOM 1446	CD	GLU	B	180	-54.683	39.191	30.722	1.00	44.73	B	C
ATOM 1447	OE1	GLU	B	180	-53.598	39.220	30.102	1.00	54.52	B	O
ATOM 1448	OE2	GLU	B	180	-55.575	40.061	30.576	1.00	54.52	B	O
ATOM 1449	C	GLU	B	180	-54.666	35.432	32.894	1.00	37.08	B	C

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Figure 8-23

ATOM 1450	O	GLU	B	180	-54.211	34.754	31.976	1.00	37.08	B	O
ATOM 1451	N	LYS	B	181	-55.866	35.217	33.431	1.00	57.04	B	N
ATOM 1452	CA	LYS	B	181	-56.730	34.139	32.967	1.00	57.04	B	C
ATOM 1453	CB	LYS	B	181	-57.565	33.589	34.122	1.00	69.98	B	C
ATOM 1454	CG	LYS	B	181	-58.459	32.403	33.762	1.00	69.98	B	C
ATOM 1455	CD	LYS	B	181	-57.661	31.140	33.529	1.00	69.98	B	C
ATOM 1456	CE	LYS	B	181	-58.575	29.936	33.437	1.00	69.98	B	C
ATOM 1457	NZ	LYS	B	181	-57.794	28.670	33.435	1.00	69.98	B	N
ATOM 1458	C	LYS	B	181	-57.648	34.624	31.867	1.00	57.04	B	C
ATOM 1459	O	LYS	B	181	-57.211	34.867	30.747	1.00	57.04	B	O
ATOM 1460	N	GLU	B	182	-58.925	34.771	32.180	1.00	33.61	B	N
ATOM 1461	CA	GLU	B	182	-59.878	35.218	31.180	1.00	33.61	B	C
ATOM 1462	CB	GLU	B	182	-61.080	34.286	31.158	1.00	97.43	B	C
ATOM 1463	CG	GLU	B	182	-60.681	32.832	31.083	1.00	97.43	B	C
ATOM 1464	CD	GLU	B	182	-61.867	31.910	31.059	1.00	97.43	B	C
ATOM 1465	OE1	GLU	B	182	-62.547	31.856	30.015	1.00	97.43	B	O
ATOM 1466	OE2	GLU	B	182	-62.122	31.247	32.088	1.00	97.43	B	O
ATOM 1467	C	GLU	B	182	-60.302	36.630	31.522	1.00	33.61	B	C
ATOM 1468	O	GLU	B	182	-61.431	36.870	31.946	1.00	33.61	B	O
ATOM 1469	N	ASN	B	183	-59.374	37.562	31.331	1.00	23.60	B	N
ATOM 1470	CA	ASN	B	183	-59.608	38.965	31.628	1.00	23.60	B	C
ATOM 1471	CB	ASN	B	183	-60.888	39.468	30.972	1.00	32.15	B	C
ATOM 1472	CG	ASN	B	183	-60.958	40.979	30.945	1.00	32.15	B	C
ATOM 1473	OD1	ASN	B	183	-60.114	41.641	30.337	1.00	32.15	B	O
ATOM 1474	ND2	ASN	B	183	-61.958	41.537	31.611	1.00	32.15	B	N
ATOM 1475	C	ASN	B	183	-59.690	39.173	33.128	1.00	23.60	B	C
ATOM 1476	O	ASN	B	183	-60.243	40.162	33.604	1.00	23.60	B	O
ATOM 1477	N	LYS	B	184	-59.147	38.214	33.869	1.00	28.38	B	N
ATOM 1478	CA	LYS	B	184	-59.107	38.307	35.313	1.00	28.38	B	C
ATOM 1479	CB	LYS	B	184	-60.264	37.528	35.941	1.00	58.49	B	C
ATOM 1480	CG	LYS	B	184	-60.878	36.476	35.056	1.00	58.49	B	C
ATOM 1481	CD	LYS	B	184	-62.181	35.982	35.669	1.00	58.49	B	C
ATOM 1482	CE	LYS	B	184	-62.827	34.898	34.825	1.00	58.49	B	C
ATOM 1483	NZ	LYS	B	184	-64.050	34.366	35.481	1.00	58.49	B	N
ATOM 1484	C	LYS	B	184	-57.760	37.799	35.816	1.00	28.38	B	C
ATOM 1485	O	LYS	B	184	-57.035	37.121	35.089	1.00	28.38	B	O
ATOM 1486	N	ILE	B	185	-57.408	38.161	37.043	1.00	24.83	B	N
ATOM 1487	CA	ILE	B	185	-56.144	37.722	37.618	1.00	23.32	B	C
ATOM 1488	CB	ILE	B	185	-55.634	38.721	38.675	1.00	18.04	B	C
ATOM 1489	CG2	ILE	B	185	-54.355	38.186	39.299	1.00	18.04	B	C
ATOM 1490	CG1	ILE	B	185	-55.426	40.094	38.024	1.00	18.04	B	C
ATOM 1491	CD1	ILE	B	185	-55.094	41.205	39.000	1.00	18.04	B	C
ATOM 1492	C	ILE	B	185	-56.314	36.354	38.276	1.00	23.78	B	C
ATOM 1493	O	ILE	B	185	-57.165	36.167	39.149	1.00	26.97	B	O
ATOM 1494	N	LEU	B	186	-55.494	35.400	37.849	1.00	37.76	B	N
ATOM 1495	CA	LEU	B	186	-55.549	34.043	38.384	1.00	36.96	B	C
ATOM 1496	CB	LEU	B	186	-55.456	33.024	37.247	1.00	26.54	B	C
ATOM 1497	CG	LEU	B	186	-55.296	31.568	37.699	1.00	26.54	B	C
ATOM 1498	CD1	LEU	B	186	-56.440	31.198	38.637	1.00	26.54	B	C
ATOM 1499	CD2	LEU	B	186	-55.266	30.651	36.492	1.00	26.54	B	C
ATOM 1500	C	LEU	B	186	-54.440	33.775	39.389	1.00	34.10	B	C
ATOM 1501	O	LEU	B	186	-53.262	33.937	39.080	1.00	41.03	B	O
ATOM 1502	N	VAL	B	187	-54.821	33.354	40.590	1.00	18.15	B	N
ATOM 1503	CA	VAL	B	187	-53.842	33.071	41.631	1.00	19.65	B	C
ATOM 1504	CB	VAL	B	187	-54.466	33.121	43.038	1.00	30.90	B	C
ATOM 1505	CG1	VAL	B	187	-53.424	32.715	44.080	1.00	28.95	B	C
ATOM 1506	CG2	VAL	B	187	-54.988	34.514	43.322	1.00	37.96	B	C
ATOM 1507	C	VAL	B	187	-53.268	31.683	41.431	1.00	21.86	B	C
ATOM 1508	O	VAL	B	187	-54.008	30.704	41.408	1.00	24.18	B	O
ATOM 1509	N	LYS	B	188	-51.949	31.598	41.302	1.00	44.97	B	N
ATOM 1510	CA	LYS	B	188	-51.311	30.307	41.097	1.00	46.86	B	C
ATOM 1511	CB	LYS	B	188	-50.297	30.405	39.955	1.00	40.95	B	C
ATOM 1512	CG	LYS	B	188	-50.905	30.194	38.580	1.00	44.93	B	C
ATOM 1513	CD	LYS	B	188	-51.443	28.784	38.466	1.00	50.22	B	C
ATOM 1514	CE	LYS	B	188	-52.245	28.575	37.193	1.00	55.18	B	C
ATOM 1515	NZ	LYS	B	188	-51.423	28.675	35.952	1.00	40.35	B	N

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Figure 8-24

ATOM 1516	C	LYS	B	188	-50.649	29.733	42.348	1.00	44.67	B	C
ATOM 1517	O	LYS	B	188	-50.404	28.532	42.424	1.00	47.25	B	O
ATOM 1518	N	GLU	B	189	-50.359	30.588	43.324	1.00	59.54	B	N
ATOM 1519	CA	GLU	B	189	-49.738	30.146	44.570	1.00	62.23	B	C
ATOM 1520	CB	GLU	B	189	-48.270	30.549	44.627	1.00	72.82	B	C
ATOM 1521	CG	GLU	B	189	-47.455	30.093	43.452	1.00	72.82	B	C
ATOM 1522	CD	GLU	B	189	-46.023	30.560	43.543	1.00	72.82	B	C
ATOM 1523	OE1	GLU	B	189	-45.263	30.311	42.585	1.00	72.82	B	O
ATOM 1524	OE2	GLU	B	189	-45.659	31.174	44.572	1.00	72.82	B	O
ATOM 1525	C	GLU	B	189	-50.456	30.810	45.721	1.00	59.75	B	C
ATOM 1526	O	GLU	B	189	-50.435	32.034	45.854	1.00	60.31	B	O
ATOM 1527	N	THR	B	190	-51.093	30.008	46.558	1.00	28.63	B	N
ATOM 1528	CA	THR	B	190	-51.810	30.562	47.690	1.00	30.20	B	C
ATOM 1529	CB	THR	B	190	-52.541	29.449	48.455	1.00	23.74	B	C
ATOM 1530	OG1	THR	B	190	-52.321	29.619	49.855	1.00	23.74	B	O
ATOM 1531	CG2	THR	B	190	-52.049	28.091	48.023	1.00	23.74	B	C
ATOM 1532	C	THR	B	190	-50.850	31.340	48.614	1.00	28.68	B	C
ATOM 1533	O	THR	B	190	-49.701	30.942	48.827	1.00	29.33	B	O
ATOM 1534	N	GLY	B	191	-51.332	32.471	49.127	1.00	34.98	B	N
ATOM 1535	CA	GLY	B	191	-50.533	33.320	49.998	1.00	36.43	B	C
ATOM 1536	C	GLY	B	191	-51.189	34.673	50.228	1.00	36.63	B	C
ATOM 1537	O	GLY	B	191	-52.376	34.835	49.963	1.00	39.34	B	O
ATOM 1538	N	TYR	B	192	-50.428	35.641	50.732	1.00	19.53	B	N
ATOM 1539	CA	TYR	B	192	-50.965	36.980	50.980	1.00	19.07	B	C
ATOM 1540	CB	TYR	B	192	-50.380	37.577	52.267	1.00	19.88	B	C
ATOM 1541	CG	TYR	B	192	-50.919	36.928	53.518	1.00	19.88	B	C
ATOM 1542	CD1	TYR	B	192	-50.453	35.692	53.931	1.00	19.88	B	C
ATOM 1543	CE1	TYR	B	192	-50.989	35.062	55.032	1.00	19.88	B	C
ATOM 1544	CD2	TYR	B	192	-51.950	37.527	54.257	1.00	19.88	B	C
ATOM 1545	CE2	TYR	B	192	-52.497	36.899	55.370	1.00	19.88	B	C
ATOM 1546	CZ	TYR	B	192	-52.007	35.663	55.744	1.00	19.88	B	C
ATOM 1547	OH	TYR	B	192	-52.545	35.002	56.818	1.00	19.88	B	O
ATOM 1548	C	TYR	B	192	-50.688	37.913	49.807	1.00	17.31	B	C
ATOM 1549	O	TYR	B	192	-49.580	37.940	49.265	1.00	18.36	B	O
ATOM 1550	N	PHE	B	193	-51.698	38.674	49.403	1.00	37.11	B	N
ATOM 1551	CA	PHE	B	193	-51.512	39.581	48.286	1.00	37.11	B	C
ATOM 1552	CB	PHE	B	193	-52.173	39.037	47.016	1.00	16.71	B	C
ATOM 1553	CG	PHE	B	193	-51.611	37.719	46.533	1.00	16.71	B	C
ATOM 1554	CD1	PHE	B	193	-51.903	36.521	47.204	1.00	16.71	B	C
ATOM 1555	CD2	PHE	B	193	-50.826	37.669	45.378	1.00	16.71	B	C
ATOM 1556	CE1	PHE	B	193	-51.424	35.303	46.729	1.00	16.71	B	C
ATOM 1557	CE2	PHE	B	193	-50.343	36.457	44.896	1.00	16.71	B	C
ATOM 1558	CZ	PHE	B	193	-50.643	35.270	45.572	1.00	16.71	B	C
ATOM 1559	C	PHE	B	193	-52.041	40.988	48.518	1.00	37.11	B	C
ATOM 1560	O	PHE	B	193	-53.081	41.199	49.156	1.00	37.11	B	O
ATOM 1561	N	PHE	B	194	-51.289	41.948	47.993	1.00	22.96	B	N
ATOM 1562	CA	PHE	B	194	-51.664	43.343	48.045	1.00	23.44	B	C
ATOM 1563	CB	PHE	B	194	-50.424	44.234	48.088	1.00	32.03	B	C
ATOM 1564	CG	PHE	B	194	-50.731	45.698	47.962	1.00	32.03	B	C
ATOM 1565	CD1	PHE	B	194	-51.405	46.367	48.978	1.00	32.03	B	C
ATOM 1566	CD2	PHE	B	194	-50.370	46.404	46.816	1.00	32.03	B	C
ATOM 1567	CE1	PHE	B	194	-51.714	47.720	48.853	1.00	32.03	B	C
ATOM 1568	CE2	PHE	B	194	-50.672	47.752	46.682	1.00	32.03	B	C
ATOM 1569	CZ	PHE	B	194	-51.347	48.413	47.702	1.00	32.03	B	C
ATOM 1570	C	PHE	B	194	-52.388	43.500	46.702	1.00	23.83	B	C
ATOM 1571	O	PHE	B	194	-51.810	43.252	45.647	1.00	25.95	B	O
ATOM 1572	N	ILE	B	195	-53.657	43.883	46.749	1.00	37.35	B	N
ATOM 1573	CA	ILE	B	195	-54.454	44.031	45.543	1.00	34.56	B	C
ATOM 1574	CB	ILE	B	195	-55.679	43.128	45.610	1.00	20.15	B	C
ATOM 1575	CG2	ILE	B	195	-56.449	43.198	44.300	1.00	20.15	B	C
ATOM 1576	CG1	ILE	B	195	-55.241	41.700	45.935	1.00	20.15	B	C
ATOM 1577	CD1	ILE	B	195	-56.394	40.743	46.185	1.00	20.15	B	C
ATOM 1578	C	ILE	B	195	-54.927	45.464	45.392	1.00	33.53	B	C
ATOM 1579	O	ILE	B	195	-55.423	46.056	46.345	1.00	32.15	B	O
ATOM 1580	N	TYR	B	196	-54.789	46.018	44.193	1.00	16.88	B	N
ATOM 1581	CA	TYR	B	196	-55.202	47.395	43.951	1.00	20.13	B	C

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Figure 8-25

ATOM 1582	CB	TYR	B	196	-53.992	48.330	43.979	1.00	27.48	B	C
ATOM 1583	CG	TYR	B	196	-52.915	47.944	42.994	1.00	22.37	B	C
ATOM 1584	CD1	TYR	B	196	-52.026	46.911	43.275	1.00	25.68	B	C
ATOM 1585	CE1	TYR	B	196	-51.052	46.522	42.352	1.00	24.04	B	C
ATOM 1586	CD2	TYR	B	196	-52.809	48.582	41.762	1.00	25.82	B	C
ATOM 1587	CE2	TYR	B	196	-51.844	48.196	40.832	1.00	28.99	B	C
ATOM 1588	CZ	TYR	B	196	-50.970	47.167	41.139	1.00	25.10	B	C
ATOM 1589	OH	TYR	B	196	-50.003	46.793	40.246	1.00	25.33	B	O
ATOM 1590	C	TYR	B	196	-55.904	47.546	42.614	1.00	21.38	B	C
ATOM 1591	O	TYR	B	196	-55.606	46.832	41.663	1.00	18.59	B	O
ATOM 1592	N	GLY	B	197	-56.833	48.490	42.545	1.00	33.97	B	N
ATOM 1593	CA	GLY	B	197	-57.559	48.717	41.313	1.00	32.79	B	C
ATOM 1594	C	GLY	B	197	-58.084	50.136	41.243	1.00	33.54	B	C
ATOM 1595	O	GLY	B	197	-58.596	50.667	42.234	1.00	31.88	B	O
ATOM 1596	N	GLN	B	198	-57.947	50.754	40.074	1.00	42.78	B	N
ATOM 1597	CA	GLN	B	198	-58.410	52.117	39.865	1.00	45.47	B	C
ATOM 1598	CB	GLN	B	198	-57.249	53.102	39.947	1.00	21.98	B	C
ATOM 1599	CG	GLN	B	198	-57.620	54.501	39.468	1.00	25.08	B	C
ATOM 1600	CD	GLN	B	198	-56.456	55.457	39.523	1.00	28.34	B	C
ATOM 1601	OE1	GLN	B	198	-55.904	55.699	40.585	1.00	27.00	B	O
ATOM 1602	NE2	GLN	B	198	-56.071	56.004	38.373	1.00	25.59	B	N
ATOM 1603	C	GLN	B	198	-59.066	52.268	38.513	1.00	45.42	B	C
ATOM 1604	O	GLN	B	198	-58.606	51.706	37.526	1.00	46.25	B	O
ATOM 1605	N	VAL	B	199	-60.146	53.030	38.470	1.00	14.67	B	N
ATOM 1606	CA	VAL	B	199	-60.833	53.276	37.215	1.00	17.82	B	C
ATOM 1607	CB	VAL	B	199	-62.027	52.268	36.977	1.00	11.14	B	C
ATOM 1608	CG1	VAL	B	199	-62.412	51.590	38.256	1.00	9.90	B	C
ATOM 1609	CG2	VAL	B	199	-63.227	52.984	36.384	1.00	12.61	B	C
ATOM 1610	C	VAL	B	199	-61.317	54.720	37.187	1.00	19.95	B	C
ATOM 1611	O	VAL	B	199	-61.726	55.274	38.214	1.00	18.67	B	O
ATOM 1612	N	LEU	B	200	-61.228	55.338	36.010	1.00	29.98	B	N
ATOM 1613	CA	LEU	B	200	-61.664	56.718	35.834	1.00	29.04	B	C
ATOM 1614	CB	LEU	B	200	-60.754	57.420	34.822	1.00	22.82	B	C
ATOM 1615	CG	LEU	B	200	-61.242	58.748	34.241	1.00	22.82	B	C
ATOM 1616	CD1	LEU	B	200	-61.793	59.653	35.341	1.00	22.82	B	C
ATOM 1617	CD2	LEU	B	200	-60.095	59.409	33.516	1.00	22.82	B	C
ATOM 1618	C	LEU	B	200	-63.120	56.756	35.364	1.00	30.02	B	C
ATOM 1619	O	LEU	B	200	-63.439	56.382	34.231	1.00	31.44	B	O
ATOM 1620	N	TYR	B	201	-64.004	57.202	36.250	1.00	41.04	B	N
ATOM 1621	CA	TYR	B	201	-65.423	57.281	35.930	1.00	41.30	B	C
ATOM 1622	CB	TYR	B	201	-66.251	57.177	37.205	1.00	42.88	B	C
ATOM 1623	CG	TYR	B	201	-66.083	55.825	37.837	1.00	42.88	B	C
ATOM 1624	CD1	TYR	B	201	-66.563	54.689	37.202	1.00	42.88	B	C
ATOM 1625	CE1	TYR	B	201	-66.318	53.427	37.707	1.00	42.88	B	C
ATOM 1626	CD2	TYR	B	201	-65.354	55.662	39.011	1.00	42.88	B	C
ATOM 1627	CE2	TYR	B	201	-65.103	54.397	39.525	1.00	42.88	B	C
ATOM 1628	CZ	TYR	B	201	-65.589	53.286	38.860	1.00	42.88	B	C
ATOM 1629	OH	TYR	B	201	-65.330	52.021	39.326	1.00	42.88	B	O
ATOM 1630	C	TYR	B	201	-65.731	58.555	35.182	1.00	40.74	B	C
ATOM 1631	O	TYR	B	201	-65.387	59.657	35.610	1.00	40.20	B	O
ATOM 1632	N	THR	B	202	-66.371	58.387	34.037	1.00	45.73	B	N
ATOM 1633	CA	THR	B	202	-66.717	59.507	33.191	1.00	50.98	B	C
ATOM 1634	CB	THR	B	202	-65.956	59.387	31.865	1.00	51.38	B	C
ATOM 1635	OG1	THR	B	202	-66.196	60.546	31.076	1.00	51.38	B	O
ATOM 1636	CG2	THR	B	202	-66.399	58.163	31.101	1.00	51.38	B	C
ATOM 1637	C	THR	B	202	-68.233	59.516	32.970	1.00	49.62	B	C
ATOM 1638	O	THR	B	202	-68.747	60.162	32.067	1.00	48.75	B	O
ATOM 1639	N	ASP	B	203	-68.935	58.783	33.826	1.00	37.62	B	N
ATOM 1640	CA	ASP	B	203	-70.389	58.662	33.791	1.00	37.62	B	C
ATOM 1641	CB	ASP	B	203	-70.775	57.251	34.257	1.00	59.44	B	C
ATOM 1642	CG	ASP	B	203	-72.266	57.023	34.274	1.00	59.44	B	C
ATOM 1643	OD1	ASP	B	203	-72.687	55.852	34.170	1.00	59.44	B	O
ATOM 1644	OD2	ASP	B	203	-73.020	58.006	34.405	1.00	59.44	B	O
ATOM 1645	C	ASP	B	203	-70.970	59.727	34.722	1.00	37.62	B	C
ATOM 1646	O	ASP	B	203	-70.332	60.095	35.703	1.00	37.62	B	O
ATOM 1647	N	LYS	B	204	-72.164	60.233	34.425	1.00	47.23	B	N

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Figure 8-26

ATOM 1648	CA	LYS	B	204	-72.739	61.263	35.278	1.00	47.23	B	C
ATOM 1649	CB	LYS	B	204	-73.219	62.447	34.434	1.00	80.41	B	C
ATOM 1650	CG	LYS	B	204	-74.350	62.135	33.480	1.00	80.41	B	C
ATOM 1651	CD	LYS	B	204	-74.720	63.364	32.655	1.00	80.41	B	C
ATOM 1652	CE	LYS	B	204	-73.565	63.809	31.757	1.00	80.41	B	C
ATOM 1653	NZ	LYS	B	204	-73.908	65.004	30.938	1.00	80.41	B	N
ATOM 1654	C	LYS	B	204	-73.851	60.824	36.229	1.00	47.23	B	C
ATOM 1655	O	LYS	B	204	-74.619	61.663	36.701	1.00	47.23	B	O
ATOM 1656	N	THR	B	205	-73.935	59.528	36.531	1.00	31.66	B	N
ATOM 1657	CA	THR	B	205	-74.957	59.035	37.465	1.00	31.66	B	C
ATOM 1658	CB	THR	B	205	-75.060	57.493	37.446	1.00	45.81	B	C
ATOM 1659	OG1	THR	B	205	-73.894	56.929	38.045	1.00	45.81	B	O
ATOM 1660	CG2	THR	B	205	-75.156	56.987	36.032	1.00	45.81	B	C
ATOM 1661	C	THR	B	205	-74.543	59.493	38.861	1.00	31.66	B	C
ATOM 1662	O	THR	B	205	-73.356	59.684	39.107	1.00	31.66	B	O
ATOM 1663	N	TYR	B	206	-75.501	59.658	39.772	1.00	30.93	B	N
ATOM 1664	CA	TYR	B	206	-75.205	60.146	41.130	1.00	30.93	B	C
ATOM 1665	CB	TYR	B	206	-76.366	59.848	42.096	1.00	71.88	B	C
ATOM 1666	CG	TYR	B	206	-76.478	58.412	42.540	1.00	71.88	B	C
ATOM 1667	CD1	TYR	B	206	-76.671	58.090	43.884	1.00	71.88	B	C
ATOM 1668	CE1	TYR	B	206	-76.794	56.764	44.301	1.00	71.88	B	C
ATOM 1669	CD2	TYR	B	206	-76.409	57.374	41.618	1.00	71.88	B	C
ATOM 1670	CE2	TYR	B	206	-76.530	56.044	42.019	1.00	71.88	B	C
ATOM 1671	CZ	TYR	B	206	-76.722	55.743	43.362	1.00	71.88	B	C
ATOM 1672	OH	TYR	B	206	-76.842	54.425	43.755	1.00	71.88	B	O
ATOM 1673	C	TYR	B	206	-73.897	59.626	41.738	1.00	30.93	B	C
ATOM 1674	O	TYR	B	206	-73.148	60.372	42.377	1.00	30.93	B	O
ATOM 1675	N	ALA	B	207	-73.613	58.347	41.535	1.00	35.77	B	N
ATOM 1676	CA	ALA	B	207	-72.394	57.770	42.076	1.00	35.77	B	C
ATOM 1677	CB	ALA	B	207	-72.612	57.380	43.522	1.00	16.15	B	C
ATOM 1678	C	ALA	B	207	-71.923	56.566	41.272	1.00	35.77	B	C
ATOM 1679	O	ALA	B	207	-72.727	55.771	40.799	1.00	35.77	B	O
ATOM 1680	N	MET	B	208	-70.607	56.449	41.119	1.00	27.75	B	N
ATOM 1681	CA	MET	B	208	-69.995	55.345	40.386	1.00	27.75	B	C
ATOM 1682	CB	MET	B	208	-69.327	55.856	39.112	1.00	28.38	B	C
ATOM 1683	CG	MET	B	208	-70.295	56.351	38.062	1.00	28.38	B	C
ATOM 1684	SD	MET	B	208	-71.333	55.022	37.479	1.00	28.38	B	S
ATOM 1685	CE	MET	B	208	-70.288	54.265	36.241	1.00	28.38	B	C
ATOM 1686	C	MET	B	208	-68.949	54.673	41.264	1.00	27.75	B	C
ATOM 1687	O	MET	B	208	-68.570	55.200	42.315	1.00	27.75	B	O
ATOM 1688	N	GLY	B	209	-68.480	53.508	40.835	1.00	32.42	B	N
ATOM 1689	CA	GLY	B	209	-67.481	52.808	41.619	1.00	32.42	B	C
ATOM 1690	C	GLY	B	209	-67.279	51.396	41.136	1.00	32.42	B	C
ATOM 1691	O	GLY	B	209	-68.010	50.933	40.272	1.00	32.42	B	O
ATOM 1692	N	HIS	B	210	-66.281	50.710	41.679	1.00	19.55	B	N
ATOM 1693	CA	HIS	B	210	-66.021	49.338	41.270	1.00	19.55	B	C
ATOM 1694	CB	HIS	B	210	-64.833	49.258	40.317	1.00	32.58	B	C
ATOM 1695	CG	HIS	B	210	-63.584	49.887	40.844	1.00	32.58	B	C
ATOM 1696	CD2	HIS	B	210	-62.376	49.355	41.150	1.00	32.58	B	C
ATOM 1697	ND1	HIS	B	210	-63.473	51.242	41.072	1.00	32.58	B	N
ATOM 1698	CE1	HIS	B	210	-62.250	51.518	41.492	1.00	32.58	B	C
ATOM 1699	NE2	HIS	B	210	-61.564	50.391	41.547	1.00	32.58	B	N
ATOM 1700	C	HIS	B	210	-65.783	48.420	42.432	1.00	19.55	B	C
ATOM 1701	O	HIS	B	210	-65.558	48.862	43.560	1.00	19.55	B	O
ATOM 1702	N	LEU	B	211	-65.838	47.130	42.134	1.00	18.41	B	N
ATOM 1703	CA	LEU	B	211	-65.650	46.100	43.135	1.00	20.38	B	C
ATOM 1704	CB	LEU	B	211	-66.872	45.188	43.190	1.00	20.90	B	C
ATOM 1705	CG	LEU	B	211	-68.237	45.866	43.113	1.00	20.16	B	C
ATOM 1706	CD1	LEU	B	211	-69.273	44.812	42.827	1.00	20.16	B	C
ATOM 1707	CD2	LEU	B	211	-68.538	46.613	44.407	1.00	20.16	B	C
ATOM 1708	C	LEU	B	211	-64.474	45.266	42.723	1.00	21.46	B	C
ATOM 1709	O	LEU	B	211	-64.382	44.853	41.567	1.00	24.45	B	O
ATOM 1710	N	ILE	B	212	-63.551	45.050	43.648	1.00	31.81	B	N
ATOM 1711	CA	ILE	B	212	-62.422	44.183	43.373	1.00	29.52	B	C
ATOM 1712	CB	ILE	B	212	-61.138	44.694	44.028	1.00	22.12	B	C
ATOM 1713	OG2	ILE	B	212	-60.063	43.629	43.966	1.00	24.44	B	C

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Figure 8-27

ATOM 1714	CG1	ILE	B	212	-60.663	45.942	43.292	1.00	24.44	B	C
ATOM 1715	CD1	ILE	B	212	-59.421	46.568	43.890	1.00	24.44	B	C
ATOM 1716	C	ILE	B	212	-62.930	42.915	44.047	1.00	27.47	B	C
ATOM 1717	O	ILE	B	212	-62.989	42.825	45.270	1.00	28.47	B	O
ATOM 1718	N	GLN	B	213	-63.340	41.954	43.233	1.00	20.99	B	N
ATOM 1719	CA	GLN	B	213	-63.902	40.720	43.738	1.00	22.17	B	C
ATOM 1720	CB	GLN	B	213	-65.199	40.417	42.994	1.00	28.31	B	C
ATOM 1721	CG	GLN	B	213	-66.149	41.597	42.929	1.00	34.74	B	C
ATOM 1722	CD	GLN	B	213	-67.437	41.257	42.221	1.00	34.74	B	C
ATOM 1723	OE1	GLN	B	213	-67.421	40.734	41.112	1.00	34.74	B	O
ATOM 1724	NE2	GLN	B	213	-68.567	41.550	42.861	1.00	34.74	B	N
ATOM 1725	C	GLN	B	213	-63.003	39.511	43.651	1.00	20.14	B	C
ATOM 1726	O	GLN	B	213	-62.101	39.438	42.824	1.00	18.86	B	O
ATOM 1727	N	ARG	B	214	-63.286	38.551	44.521	1.00	15.61	B	N
ATOM 1728	CA	ARG	B	214	-62.564	37.290	44.589	1.00	16.18	B	C
ATOM 1729	CB	ARG	B	214	-62.067	37.074	46.009	1.00	41.47	B	C
ATOM 1730	CG	ARG	B	214	-61.434	35.740	46.229	1.00	33.45	B	C
ATOM 1731	CD	ARG	B	214	-61.234	35.512	47.697	1.00	33.45	B	C
ATOM 1732	NE	ARG	B	214	-60.500	34.283	47.945	1.00	33.45	B	N
ATOM 1733	CZ	ARG	B	214	-60.497	33.646	49.106	1.00	33.45	B	C
ATOM 1734	NH1	ARG	B	214	-61.197	34.136	50.119	1.00	33.45	B	N
ATOM 1735	NH2	ARG	B	214	-59.809	32.518	49.249	1.00	33.45	B	N
ATOM 1736	C	ARG	B	214	-63.490	36.129	44.195	1.00	14.83	B	C
ATOM 1737	O	ARG	B	214	-64.551	35.945	44.793	1.00	15.85	B	O
ATOM 1738	N	LYS	B	215	-63.092	35.368	43.178	1.00	24.28	B	N
ATOM 1739	CA	LYS	B	215	-63.867	34.219	42.726	1.00	28.93	B	C
ATOM 1740	CB	LYS	B	215	-63.792	34.110	41.207	1.00	101.59	B	C
ATOM 1741	CG	LYS	B	215	-64.944	33.377	40.554	1.00	88.82	B	C
ATOM 1742	CD	LYS	B	215	-64.677	33.230	39.060	1.00	88.82	B	C
ATOM 1743	CE	LYS	B	215	-65.917	32.823	38.281	1.00	88.82	B	C
ATOM 1744	NZ	LYS	B	215	-66.925	33.925	38.213	1.00	88.82	B	N
ATOM 1745	C	LYS	B	215	-63.169	33.027	43.376	1.00	27.17	B	C
ATOM 1746	O	LYS	B	215	-62.091	32.623	42.934	1.00	26.27	B	O
ATOM 1747	N	LYS	B	216	-63.769	32.475	44.429	1.00	47.68	B	N
ATOM 1748	CA	LYS	B	216	-63.186	31.349	45.168	1.00	47.68	B	C
ATOM 1749	CB	LYS	B	216	-63.816	31.264	46.555	1.00	53.49	B	C
ATOM 1750	CG	LYS	B	216	-63.581	32.493	47.398	1.00	37.16	B	C
ATOM 1751	CD	LYS	B	216	-64.137	32.336	48.806	1.00	37.16	B	C
ATOM 1752	CE	LYS	B	216	-65.656	32.332	48.834	1.00	37.16	B	C
ATOM 1753	NZ	LYS	B	216	-66.191	32.252	50.232	1.00	37.16	B	N
ATOM 1754	C	LYS	B	216	-63.299	29.986	44.505	1.00	47.68	B	C
ATOM 1755	O	LYS	B	216	-64.303	29.683	43.880	1.00	47.68	B	O
ATOM 1756	N	VAL	B	217	-62.267	29.161	44.649	1.00	60.63	B	N
ATOM 1757	CA	VAL	B	217	-62.305	27.824	44.079	1.00	60.63	B	C
ATOM 1758	CB	VAL	B	217	-60.900	27.266	43.800	1.00	56.81	B	C
ATOM 1759	CG1	VAL	B	217	-60.322	27.938	42.601	1.00	56.81	B	C
ATOM 1760	CG2	VAL	B	217	-60.004	27.457	45.007	1.00	56.81	B	C
ATOM 1761	C	VAL	B	217	-63.000	26.884	45.056	1.00	60.63	B	C
ATOM 1762	O	VAL	B	217	-63.588	25.880	44.655	1.00	60.63	B	O
ATOM 1763	N	HIS	B	218	-62.923	27.215	46.342	1.00	24.00	B	N
ATOM 1764	CA	HIS	B	218	-63.548	26.411	47.405	1.00	24.00	B	C
ATOM 1765	CB	HIS	B	218	-62.515	26.049	48.485	1.00	55.41	B	C
ATOM 1766	CG	HIS	B	218	-61.319	25.315	47.978	1.00	55.41	B	C
ATOM 1767	CD2	HIS	B	218	-60.050	25.265	48.442	1.00	55.41	B	C
ATOM 1768	ND1	HIS	B	218	-61.369	24.461	46.896	1.00	55.41	B	N
ATOM 1769	CE1	HIS	B	218	-60.179	23.913	46.716	1.00	55.41	B	C
ATOM 1770	NE2	HIS	B	218	-59.362	24.385	47.642	1.00	55.41	B	N
ATOM 1771	C	HIS	B	218	-64.692	27.202	48.101	1.00	24.00	B	C
ATOM 1772	O	HIS	B	218	-64.527	28.366	48.366	1.00	24.00	B	O
ATOM 1773	N	VAL	B	219	-65.827	26.596	48.463	1.00	24.94	B	N
ATOM 1774	CA	VAL	B	219	-66.920	27.336	49.141	1.00	24.94	B	C
ATOM 1775	CB	VAL	B	219	-68.042	27.734	48.154	1.00	13.01	B	C
ATOM 1776	CG1	VAL	B	219	-69.037	28.638	48.824	1.00	13.01	B	C
ATOM 1777	CG2	VAL	B	219	-67.458	28.435	46.965	1.00	13.01	B	C
ATOM 1778	C	VAL	B	219	-67.556	26.490	50.239	1.00	24.94	B	C
ATOM 1779	O	VAL	B	219	-67.600	25.276	50.131	1.00	24.94	B	O

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Figure 8-28

ATOM 1780	N	PHE	B	220	-68.063	27.120	51.292	1.00	34.32	B	N
ATOM 1781	CA	PHE	B	220	-68.674	26.364	52.383	1.00	34.32	B	C
ATOM 1782	CB	PHE	B	220	-67.637	26.079	53.461	1.00	12.03	B	C
ATOM 1783	CG	PHE	B	220	-66.489	25.268	52.976	1.00	12.03	B	C
ATOM 1784	CD1	PHE	B	220	-65.284	25.872	52.656	1.00	12.03	B	C
ATOM 1785	CD2	PHE	B	220	-66.634	23.898	52.761	1.00	12.03	B	C
ATOM 1786	CE1	PHE	B	220	-64.225	25.138	52.121	1.00	12.03	B	C
ATOM 1787	CE2	PHE	B	220	-65.591	23.145	52.226	1.00	12.03	B	C
ATOM 1788	CZ	PHE	B	220	-64.372	23.780	51.902	1.00	12.03	B	C
ATOM 1789	C	PHE	B	220	-69.885	27.006	53.032	1.00	34.32	B	C
ATOM 1790	O	PHE	B	220	-69.909	28.205	53.298	1.00	34.32	B	O
ATOM 1791	N	GLY	B	221	-70.891	26.186	53.304	1.00	43.11	B	N
ATOM 1792	CA	GLY	B	221	-72.098	26.684	53.933	1.00	43.11	B	C
ATOM 1793	C	GLY	B	221	-72.833	27.757	53.149	1.00	43.11	B	C
ATOM 1794	O	GLY	B	221	-72.978	27.699	51.929	1.00	43.11	B	O
ATOM 1795	N	ASP	B	222	-73.301	28.763	53.860	1.00	40.41	B	N
ATOM 1796	CA	ASP	B	222	-74.036	29.820	53.216	1.00	40.41	B	C
ATOM 1797	CB	ASP	B	222	-74.982	30.449	54.225	1.00	72.29	B	C
ATOM 1798	CG	ASP	B	222	-75.926	29.445	54.814	1.00	72.29	B	C
ATOM 1799	OD1	ASP	B	222	-76.598	28.749	54.024	1.00	72.29	B	O
ATOM 1800	OD2	ASP	B	222	-75.993	29.349	56.057	1.00	72.29	B	O
ATOM 1801	C	ASP	B	222	-73.190	30.900	52.551	1.00	40.41	B	C
ATOM 1802	O	ASP	B	222	-73.747	31.880	52.054	1.00	40.41	B	O
ATOM 1803	N	GLU	B	223	-71.864	30.740	52.536	1.00	34.64	B	N
ATOM 1804	CA	GLU	B	223	-70.984	31.736	51.908	1.00	34.64	B	C
ATOM 1805	CB	GLU	B	223	-69.536	31.532	52.364	1.00	55.25	B	C
ATOM 1806	CG	GLU	B	223	-69.206	32.174	53.709	1.00	55.25	B	C
ATOM 1807	CD	GLU	B	223	-67.740	32.013	54.103	1.00	55.25	B	C
ATOM 1808	OE1	GLU	B	223	-67.271	32.771	54.984	1.00	55.25	B	O
ATOM 1809	OE2	GLU	B	223	-67.061	31.122	53.535	1.00	55.25	B	O
ATOM 1810	C	GLU	B	223	-71.071	31.625	50.384	1.00	34.64	B	C
ATOM 1811	O	GLU	B	223	-71.366	30.544	49.867	1.00	34.64	B	O
ATOM 1812	N	LEU	B	224	-70.826	32.722	49.663	1.00	33.71	B	N
ATOM 1813	CA	LEU	B	224	-70.893	32.682	48.190	1.00	33.71	B	C
ATOM 1814	CB	LEU	B	224	-71.495	33.969	47.621	1.00	14.23	B	C
ATOM 1815	CG	LEU	B	224	-72.431	34.802	48.483	1.00	14.23	B	C
ATOM 1816	CD1	LEU	B	224	-71.673	36.035	48.975	1.00	14.23	B	C
ATOM 1817	CD2	LEU	B	224	-73.638	35.202	47.672	1.00	14.23	B	C
ATOM 1818	C	LEU	B	224	-69.530	32.463	47.534	1.00	33.71	B	C
ATOM 1819	O	LEU	B	224	-68.493	32.688	48.157	1.00	33.71	B	O
ATOM 1820	N	SER	B	225	-69.540	32.035	46.271	1.00	48.48	B	N
ATOM 1821	CA	SER	B	225	-68.299	31.783	45.545	1.00	48.48	B	C
ATOM 1822	CB	SER	B	225	-68.559	30.934	44.298	1.00	50.52	B	C
ATOM 1823	OG	SER	B	225	-69.506	31.548	43.449	1.00	50.52	B	O
ATOM 1824	C	SER	B	225	-67.605	33.081	45.153	1.00	48.48	B	C
ATOM 1825	O	SER	B	225	-66.379	33.128	45.056	1.00	48.48	B	O
ATOM 1826	N	LEU	B	226	-68.387	34.135	44.935	1.00	54.35	B	N
ATOM 1827	CA	LEU	B	226	-67.828	35.431	44.560	1.00	53.12	B	C
ATOM 1828	CB	LEU	B	226	-68.504	35.963	43.301	1.00	29.58	B	C
ATOM 1829	CG	LEU	B	226	-67.887	37.238	42.720	1.00	29.58	B	C
ATOM 1830	CD1	LEU	B	226	-66.521	36.926	42.118	1.00	29.58	B	C
ATOM 1831	CD2	LEU	B	226	-68.794	37.812	41.657	1.00	29.58	B	C
ATOM 1832	C	LEU	B	226	-68.038	36.432	45.676	1.00	48.59	B	C
ATOM 1833	O	LEU	B	226	-69.172	36.739	46.026	1.00	49.36	B	O
ATOM 1834	N	VAL	B	227	-66.954	36.948	46.237	1.00	48.08	B	N
ATOM 1835	CA	VAL	B	227	-67.073	37.922	47.310	1.00	43.08	B	C
ATOM 1836	CB	VAL	B	227	-66.557	37.354	48.630	1.00	19.33	B	C
ATOM 1837	CG1	VAL	B	227	-67.366	36.130	49.005	1.00	19.33	B	C
ATOM 1838	CG2	VAL	B	227	-65.081	37.005	48.507	1.00	19.33	B	C
ATOM 1839	C	VAL	B	227	-66.256	39.139	46.939	1.00	38.91	B	C
ATOM 1840	O	VAL	B	227	-65.220	39.016	46.295	1.00	29.82	B	O
ATOM 1841	N	THR	B	228	-66.717	40.322	47.318	1.00	21.61	B	N
ATOM 1842	CA	THR	B	228	-65.946	41.496	46.979	1.00	23.32	B	C
ATOM 1843	CB	THR	B	228	-66.855	42.722	46.642	1.00	33.56	B	C
ATOM 1844	OG1	THR	B	228	-66.906	43.611	47.758	1.00	33.56	B	O
ATOM 1845	CG2	THR	B	228	-68.263	42.276	46.287	1.00	33.56	B	C

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Figure 8-29

ATOM 1846	C	THR	B	228	-65.001	41.818	48.134	1.00	21.61	B	C
ATOM 1847	O	THR	B	228	-65.419	41.905	49.287	1.00	23.63	B	O
ATOM 1848	N	LEU	B	229	-63.717	41.952	47.816	1.00	28.02	B	N
ATOM 1849	CA	LEU	B	229	-62.699	42.268	48.809	1.00	24.71	B	C
ATOM 1850	CB	LEU	B	229	-61.321	41.892	48.269	1.00	24.79	B	C
ATOM 1851	CG	LEU	B	229	-60.844	40.444	48.421	1.00	24.79	B	C
ATOM 1852	CD1	LEU	B	229	-61.994	39.538	48.729	1.00	24.79	B	C
ATOM 1853	CD2	LEU	B	229	-60.128	40.020	47.149	1.00	24.79	B	C
ATOM 1854	C	LEU	B	229	-62.730	43.749	49.176	1.00	24.60	B	C
ATOM 1855	O	LEU	B	229	-62.859	44.098	50.346	1.00	24.95	B	O
ATOM 1856	N	PHE	B	230	-62.604	44.614	48.176	1.00	33.60	B	N
ATOM 1857	CA	PHE	B	230	-62.628	46.048	48.414	1.00	33.34	B	C
ATOM 1858	CB	PHE	B	230	-61.213	46.636	48.368	1.00	61.88	B	C
ATOM 1859	CG	PHE	B	230	-60.167	45.703	48.853	1.00	61.88	B	C
ATOM 1860	CD1	PHE	B	230	-59.387	44.999	47.950	1.00	61.88	B	C
ATOM 1861	CD2	PHE	B	230	-60.011	45.461	50.213	1.00	61.88	B	C
ATOM 1862	CE1	PHE	B	230	-58.464	44.055	48.394	1.00	61.88	B	C
ATOM 1863	CE2	PHE	B	230	-59.094	44.520	50.669	1.00	61.88	B	C
ATOM 1864	CZ	PHE	B	230	-58.320	43.814	49.758	1.00	61.88	B	C
ATOM 1865	C	PHE	B	230	-63.458	46.709	47.338	1.00	35.23	B	C
ATOM 1866	O	PHE	B	230	-63.641	46.156	46.255	1.00	33.99	B	O
ATOM 1867	N	ARG	B	231	-63.968	47.895	47.641	1.00	18.47	B	N
ATOM 1868	CA	ARG	B	231	-64.739	48.625	46.666	1.00	20.31	B	C
ATOM 1869	CB	ARG	B	231	-66.244	48.334	46.806	1.00	22.59	B	C
ATOM 1870	CG	ARG	B	231	-66.903	48.789	48.091	1.00	22.59	B	C
ATOM 1871	CD	ARG	B	231	-68.254	48.109	48.225	1.00	26.63	B	C
ATOM 1872	NE	ARG	B	231	-69.080	48.688	49.279	1.00	33.97	B	N
ATOM 1873	CZ	ARG	B	231	-69.692	49.863	49.175	1.00	44.47	B	C
ATOM 1874	NH1	ARG	B	231	-69.569	50.571	48.063	1.00	40.70	B	N
ATOM 1875	NH2	ARG	B	231	-70.424	50.328	50.179	1.00	45.24	B	N
ATOM 1876	C	ARG	B	231	-64.439	50.113	46.767	1.00	22.45	B	C
ATOM 1877	O	ARG	B	231	-63.978	50.627	47.800	1.00	25.44	B	O
ATOM 1878	N	CYS	B	232	-64.699	50.786	45.654	1.00	38.53	B	N
ATOM 1879	CA	CYS	B	232	-64.453	52.200	45.505	1.00	38.47	B	C
ATOM 1880	C	CYS	B	232	-65.769	52.856	45.111	1.00	41.93	B	C
ATOM 1881	O	CYS	B	232	-66.531	52.295	44.327	1.00	43.36	B	O
ATOM 1882	CB	CYS	B	232	-63.436	52.384	44.383	1.00	43.39	B	C
ATOM 1883	SG	CYS	B	232	-62.243	53.716	44.642	1.00	43.39	B	S
ATOM 1884	N	ILE	B	233	-66.046	54.035	45.650	1.00	11.89	B	N
ATOM 1885	CA	ILE	B	233	-67.278	54.731	45.294	1.00	12.87	B	C
ATOM 1886	CB	ILE	B	233	-68.395	54.479	46.331	1.00	40.84	B	C
ATOM 1887	CG2	ILE	B	233	-67.999	55.038	47.685	1.00	40.84	B	C
ATOM 1888	CG1	ILE	B	233	-69.680	55.163	45.890	1.00	40.84	B	C
ATOM 1889	CD1	ILE	B	233	-70.190	54.667	44.596	1.00	40.84	B	C
ATOM 1890	C	ILE	B	233	-67.003	56.226	45.207	1.00	17.35	B	C
ATOM 1891	O	ILE	B	233	-66.333	56.800	46.069	1.00	17.81	B	O
ATOM 1892	N	GLN	B	234	-67.534	56.857	44.168	1.00	39.67	B	N
ATOM 1893	CA	GLN	B	234	-67.312	58.278	43.965	1.00	43.56	B	C
ATOM 1894	CB	GLN	B	234	-66.170	58.448	42.951	1.00	35.57	B	C
ATOM 1895	CG	GLN	B	234	-65.498	59.803	42.953	1.00	35.57	B	C
ATOM 1896	CD	GLN	B	234	-64.623	60.031	44.175	1.00	35.57	B	C
ATOM 1897	OE1	GLN	B	234	-64.274	61.167	44.491	1.00	35.57	B	O
ATOM 1898	NE2	GLN	B	234	-64.262	58.954	44.861	1.00	35.57	B	N
ATOM 1899	C	GLN	B	234	-68.591	58.956	43.461	1.00	44.51	B	C
ATOM 1900	O	GLN	B	234	-69.265	58.432	42.571	1.00	44.49	B	O
ATOM 1901	N	ASN	B	235	-68.943	60.102	44.040	1.00	37.21	B	N
ATOM 1902	CA	ASN	B	235	-70.133	60.822	43.585	1.00	40.65	B	C
ATOM 1903	CB	ASN	B	235	-70.562	61.892	44.590	1.00	19.23	B	C
ATOM 1904	CG	ASN	B	235	-71.340	61.322	45.766	1.00	19.23	B	C
ATOM 1905	OD1	ASN	B	235	-72.376	60.676	45.588	1.00	19.23	B	O
ATOM 1906	ND2	ASN	B	235	-70.847	61.568	46.976	1.00	19.23	B	N
ATOM 1907	C	ASN	B	235	-69.748	61.498	42.280	1.00	38.55	B	C
ATOM 1908	O	ASN	B	235	-68.618	61.968	42.133	1.00	35.86	B	O
ATOM 1909	N	MET	B	236	-70.677	61.544	41.333	1.00	41.14	B	N
ATOM 1910	CA	MET	B	236	-70.410	62.159	40.036	1.00	41.14	B	C
ATOM 1911	CB	MET	B	236	-70.732	61.173	38.915	1.00	36.46	B	C

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Figure 8-30

ATOM 1912	CG	MET	B	236	-69.924	59.889	38.962	1.00	36.46	B	C
ATOM 1913	SD	MET	B	236	-68.162	60.176	38.687	1.00	36.46	B	S
ATOM 1914	CE	MET	B	236	-67.614	60.019	40.339	1.00	36.46	B	C
ATOM 1915	C	MET	B	236	-71.234	63.424	39.838	1.00	41.14	B	C
ATOM 1916	O	MET	B	236	-72.378	63.498	40.268	1.00	41.14	B	O
ATOM 1917	N	PRO	B	237	-70.661	64.437	39.177	1.00	51.48	B	N
ATOM 1918	CD	PRO	B	237	-69.262	64.530	38.722	1.00	30.78	B	C
ATOM 1919	CA	PRO	B	237	-71.364	65.694	38.931	1.00	51.48	B	C
ATOM 1920	CB	PRO	B	237	-70.225	66.666	38.701	1.00	30.78	B	C
ATOM 1921	CG	PRO	B	237	-69.266	65.824	37.929	1.00	30.78	B	C
ATOM 1922	C	PRO	B	237	-72.284	65.590	37.715	1.00	51.48	B	C
ATOM 1923	O	PRO	B	237	-72.244	64.599	36.980	1.00	51.48	B	O
ATOM 1924	N	GLU	B	238	-73.099	66.623	37.505	1.00	64.11	B	N
ATOM 1925	CA	GLU	B	238	-74.036	66.674	36.386	1.00	64.11	B	C
ATOM 1926	CB	GLU	B	238	-75.034	67.812	36.594	1.00	129.74	B	C
ATOM 1927	CG	GLU	B	238	-75.995	67.579	37.741	1.00	129.74	B	C
ATOM 1928	CD	GLU	B	238	-76.956	66.442	37.461	1.00	129.74	B	C
ATOM 1929	OE1	GLU	B	238	-76.487	65.336	37.116	1.00	129.74	B	O
ATOM 1930	OE2	GLU	B	238	-78.180	66.654	37.586	1.00	129.74	B	O
ATOM 1931	C	GLU	B	238	-73.330	66.859	35.049	1.00	64.11	B	C
ATOM 1932	O	GLU	B	238	-73.662	66.195	34.063	1.00	64.11	B	O
ATOM 1933	N	THR	B	239	-72.353	67.759	35.021	1.00	50.34	B	N
ATOM 1934	CA	THR	B	239	-71.608	68.036	33.801	1.00	50.34	B	C
ATOM 1935	CB	THR	B	239	-71.730	69.519	33.421	1.00	80.42	B	C
ATOM 1936	OG1	THR	B	239	-71.167	70.328	34.459	1.00	80.42	B	O
ATOM 1937	CG2	THR	B	239	-73.189	69.894	33.243	1.00	80.42	B	C
ATOM 1938	C	THR	B	239	-70.128	67.678	33.911	1.00	50.34	B	C
ATOM 1939	O	THR	B	239	-69.542	67.718	34.992	1.00	50.34	B	O
ATOM 1940	N	LEU	B	240	-69.531	67.330	32.777	1.00	46.13	B	N
ATOM 1941	CA	LEU	B	240	-68.120	66.963	32.725	1.00	46.13	B	C
ATOM 1942	CB	LEU	B	240	-67.240	68.214	32.824	1.00	56.42	B	C
ATOM 1943	CG	LEU	B	240	-67.263	69.219	31.667	1.00	56.42	B	C
ATOM 1944	CD1	LEU	B	240	-66.880	68.533	30.361	1.00	56.42	B	C
ATOM 1945	CD2	LEU	B	240	-68.640	69.824	31.561	1.00	56.42	B	C
ATOM 1946	C	LEU	B	240	-67.711	65.969	33.812	1.00	46.13	B	C
ATOM 1947	O	LEU	B	240	-66.693	66.146	34.478	1.00	46.13	B	O
ATOM 1948	N	PRO	B	241	-68.500	64.905	34.005	1.00	61.57	B	N
ATOM 1949	CD	PRO	B	241	-69.584	64.351	33.177	1.00	51.16	B	C
ATOM 1950	CA	PRO	B	241	-68.104	63.954	35.040	1.00	57.56	B	C
ATOM 1951	CB	PRO	B	241	-69.149	62.853	34.902	1.00	51.16	B	C
ATOM 1952	CG	PRO	B	241	-69.458	62.875	33.446	1.00	51.16	B	C
ATOM 1953	C	PRO	B	241	-66.685	63.472	34.754	1.00	55.15	B	C
ATOM 1954	O	PRO	B	241	-66.384	63.011	33.649	1.00	56.19	B	O
ATOM 1955	N	ASN	B	242	-65.815	63.587	35.751	1.00	43.74	B	N
ATOM 1956	CA	ASN	B	242	-64.431	63.184	35.572	1.00	40.51	B	C
ATOM 1957	CB	ASN	B	242	-63.683	64.328	34.876	1.00	52.15	B	C
ATOM 1958	CG	ASN	B	242	-62.728	63.846	33.809	1.00	52.15	B	C
ATOM 1959	OD1	ASN	B	242	-62.238	64.634	32.996	1.00	52.15	B	O
ATOM 1960	ND2	ASN	B	242	-62.450	62.548	33.806	1.00	52.15	B	N
ATOM 1961	C	ASN	B	242	-63.765	62.835	36.904	1.00	38.07	B	C
ATOM 1962	O	ASN	B	242	-62.989	63.627	37.428	1.00	38.20	B	O
ATOM 1963	N	ASN	B	243	-64.065	61.651	37.442	1.00	39.01	B	N
ATOM 1964	CA	ASN	B	243	-63.485	61.193	38.718	1.00	36.32	B	C
ATOM 1965	CB	ASN	B	243	-64.559	61.125	39.800	1.00	35.95	B	C
ATOM 1966	CG	ASN	B	243	-64.853	62.461	40.421	1.00	35.95	B	C
ATOM 1967	OD1	ASN	B	243	-65.999	62.750	40.760	1.00	35.95	B	O
ATOM 1968	ND2	ASN	B	243	-63.825	63.278	40.599	1.00	35.95	B	N
ATOM 1969	C	ASN	B	243	-62.806	59.820	38.670	1.00	33.45	B	C
ATOM 1970	O	ASN	B	243	-63.395	58.840	38.214	1.00	33.37	B	O
ATOM 1971	N	SER	B	244	-61.566	59.750	39.148	1.00	25.99	B	N
ATOM 1972	CA	SER	B	244	-60.842	58.474	39.196	1.00	25.99	B	C
ATOM 1973	CB	SER	B	244	-59.347	58.649	38.886	1.00	32.86	B	C
ATOM 1974	OG	SER	B	244	-58.691	59.431	39.870	1.00	32.86	B	O
ATOM 1975	C	SER	B	244	-61.012	57.966	40.617	1.00	29.73	B	C
ATOM 1976	O	SER	B	244	-61.149	58.751	41.545	1.00	35.05	B	O
ATOM 1977	N	CYS	B	245	-61.012	56.655	40.788	1.00	21.08	B	N

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Figure 8-31

ATOM 1978	CA	CYS	B	245	-61.195	56.073	42.111	1.00	19.33	B	C
ATOM 1979	C	CYS	B	245	-60.186	54.951	42.311	1.00	19.89	B	C
ATOM 1980	O	CYS	B	245	-60.081	54.059	41.472	1.00	17.85	B	O
ATOM 1981	CB	CYS	B	245	-62.613	55.516	42.227	1.00	42.44	B	C
ATOM 1982	SG	CYS	B	245	-63.162	55.390	43.946	1.00	42.44	B	S
ATOM 1983	N	TYR	B	246	-59.447	54.992	43.413	1.00	21.79	B	N
ATOM 1984	CA	TYR	B	246	-58.438	53.966	43.689	1.00	18.51	B	C
ATOM 1985	CB	TYR	B	246	-57.021	54.575	43.631	1.00	25.70	B	C
ATOM 1986	CG	TYR	B	246	-55.897	53.680	44.152	1.00	25.70	B	C
ATOM 1987	CD1	TYR	B	246	-54.932	53.151	43.287	1.00	25.70	B	C
ATOM 1988	CE1	TYR	B	246	-53.874	52.354	43.774	1.00	25.70	B	C
ATOM 1989	CD2	TYR	B	246	-55.782	53.388	45.517	1.00	25.70	B	C
ATOM 1990	CE2	TYR	B	246	-54.741	52.599	46.007	1.00	25.70	B	C
ATOM 1991	CZ	TYR	B	246	-53.790	52.089	45.136	1.00	25.70	B	C
ATOM 1992	OH	TYR	B	246	-52.742	51.351	45.642	1.00	25.70	B	O
ATOM 1993	C	TYR	B	246	-58.645	53.331	45.048	1.00	17.24	B	C
ATOM 1994	O	TYR	B	246	-58.946	54.017	46.007	1.00	16.42	B	O
ATOM 1995	N	SER	B	247	-58.474	52.021	45.137	1.00	32.74	B	N
ATOM 1996	CA	SER	B	247	-58.626	51.345	46.414	1.00	31.44	B	C
ATOM 1997	CB	SER	B	247	-60.075	50.926	46.657	1.00	25.30	B	C
ATOM 1998	OG	SER	B	247	-60.209	50.378	47.951	1.00	25.30	B	O
ATOM 1999	C	SER	B	247	-57.739	50.129	46.392	1.00	30.66	B	C
ATOM 2000	O	SER	B	247	-57.523	49.526	45.331	1.00	28.09	B	O
ATOM 2001	N	ALA	B	248	-57.215	49.776	47.559	1.00	20.91	B	N
ATOM 2002	CA	ALA	B	248	-56.337	48.632	47.654	1.00	21.24	B	C
ATOM 2003	CB	ALA	B	248	-54.914	49.062	47.375	1.00	1.00	B	C
ATOM 2004	C	ALA	B	248	-56.431	47.989	49.022	1.00	19.95	B	C
ATOM 2005	O	ALA	B	248	-56.850	48.615	49.993	1.00	16.62	B	O
ATOM 2006	N	GLY	B	249	-56.039	46.728	49.098	1.00	23.95	B	N
ATOM 2007	CA	GLY	B	249	-56.071	46.045	50.370	1.00	16.17	B	C
ATOM 2008	C	GLY	B	249	-55.271	44.761	50.316	1.00	20.40	B	C
ATOM 2009	O	GLY	B	249	-54.789	44.362	49.258	1.00	18.22	B	O
ATOM 2010	N	ILE	B	250	-55.120	44.113	51.460	1.00	19.24	B	N
ATOM 2011	CA	ILE	B	250	-54.392	42.867	51.503	1.00	19.24	B	C
ATOM 2012	CB	ILE	B	250	-53.355	42.884	52.649	1.00	8.61	B	C
ATOM 2013	CG2	ILE	B	250	-52.605	41.555	52.717	1.00	8.61	B	C
ATOM 2014	CG1	ILE	B	250	-52.378	44.040	52.414	1.00	8.61	B	C
ATOM 2015	CD1	ILE	B	250	-51.194	44.082	53.380	1.00	8.61	B	C
ATOM 2016	C	ILE	B	250	-55.405	41.762	51.737	1.00	19.24	B	C
ATOM 2017	O	ILE	B	250	-56.379	41.947	52.454	1.00	19.31	B	O
ATOM 2018	N	ALA	B	251	-55.190	40.614	51.120	1.00	20.29	B	N
ATOM 2019	CA	ALA	B	251	-56.094	39.492	51.312	1.00	21.59	B	C
ATOM 2020	CB	ALA	B	251	-57.283	39.605	50.372	1.00	1.00	B	C
ATOM 2021	C	ALA	B	251	-55.348	38.193	51.061	1.00	24.80	B	C
ATOM 2022	O	ALA	B	251	-54.428	38.150	50.239	1.00	24.33	B	O
ATOM 2023	N	LYS	B	252	-55.723	37.139	51.777	1.00	25.51	B	N
ATOM 2024	CA	LYS	B	252	-55.081	35.853	51.574	1.00	25.66	B	C
ATOM 2025	CB	LYS	B	252	-55.019	35.068	52.872	1.00	37.39	B	C
ATOM 2026	CG	LYS	B	252	-54.295	33.747	52.740	1.00	37.87	B	C
ATOM 2027	CD	LYS	B	252	-53.899	33.228	54.112	1.00	37.87	B	C
ATOM 2028	CE	LYS	B	252	-53.228	31.869	54.045	1.00	37.87	B	C
ATOM 2029	NZ	LYS	B	252	-54.172	30.803	53.585	1.00	37.87	B	N
ATOM 2030	C	LYS	B	252	-55.897	35.100	50.539	1.00	26.28	B	C
ATOM 2031	O	LYS	B	252	-57.094	34.879	50.724	1.00	29.16	B	O
ATOM 2032	N	LEU	B	253	-55.251	34.740	49.435	1.00	30.70	B	N
ATOM 2033	CA	LEU	B	253	-55.908	34.016	48.349	1.00	30.43	B	C
ATOM 2034	CB	LEU	B	253	-55.644	34.715	47.014	1.00	23.65	B	C
ATOM 2035	CG	LEU	B	253	-56.354	36.011	46.621	1.00	25.19	B	C
ATOM 2036	CD1	LEU	B	253	-57.032	36.641	47.813	1.00	19.99	B	C
ATOM 2037	CD2	LEU	B	253	-55.329	36.955	45.978	1.00	21.49	B	C
ATOM 2038	C	LEU	B	253	-55.379	32.593	48.270	1.00	31.79	B	C
ATOM 2039	O	LEU	B	253	-54.234	32.325	48.652	1.00	29.37	B	O
ATOM 2040	N	GLU	B	254	-56.218	31.680	47.786	1.00	21.09	B	N
ATOM 2041	CA	GLU	B	254	-55.820	30.282	47.622	1.00	22.76	B	C
ATOM 2042	CB	GLU	B	254	-56.922	29.347	48.082	1.00	97.56	B	C
ATOM 2043	CG	GLU	B	254	-57.109	29.285	49.555	1.00	66.85	B	C

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Figure 8-32

ATOM 2044	CD	GLU	B	254	-57.996	28.129	49.944	1.00	66.85	B	C
ATOM 2045	OE1	GLU	B	254	-57.606	26.970	49.678	1.00	66.85	B	O
ATOM 2046	OE2	GLU	B	254	-59.087	28.371	50.506	1.00	66.85	B	O
ATOM 2047	C	GLU	B	254	-55.538	29.990	46.154	1.00	23.55	B	C
ATOM 2048	O	GLU	B	254	-56.164	30.583	45.259	1.00	23.27	B	O
ATOM 2049	N	GLU	B	255	-54.594	29.083	45.902	1.00	23.97	B	N
ATOM 2050	CA	GLU	B	255	-54.280	28.707	44.527	1.00	22.87	B	C
ATOM 2051	CB	GLU	B	255	-53.312	27.534	44.481	1.00	64.85	B	C
ATOM 2052	CG	GLU	B	255	-53.148	26.976	43.085	1.00	64.85	B	C
ATOM 2053	CD	GLU	B	255	-52.226	25.786	43.039	1.00	64.85	B	C
ATOM 2054	OE1	GLU	B	255	-52.024	25.241	41.932	1.00	64.85	B	O
ATOM 2055	OE2	GLU	B	255	-51.704	25.399	44.107	1.00	64.85	B	O
ATOM 2056	C	GLU	B	255	-55.584	28.294	43.857	1.00	25.32	B	C
ATOM 2057	O	GLU	B	255	-56.332	27.470	44.386	1.00	28.55	B	O
ATOM 2058	N	GLY	B	256	-55.857	28.879	42.696	1.00	29.36	B	N
ATOM 2059	CA	GLY	B	256	-57.076	28.557	41.991	1.00	29.36	B	C
ATOM 2060	C	GLY	B	256	-58.027	29.726	42.005	1.00	29.36	B	C
ATOM 2061	O	GLY	B	256	-58.888	29.831	41.127	1.00	29.36	B	O
ATOM 2062	N	ASP	B	257	-57.887	30.600	43.001	1.00	37.29	B	N
ATOM 2063	CA	ASP	B	257	-58.746	31.775	43.100	1.00	40.57	B	C
ATOM 2064	CB	ASP	B	257	-58.492	32.539	44.401	1.00	37.64	B	C
ATOM 2065	CG	ASP	B	257	-59.031	31.831	45.614	1.00	37.64	B	C
ATOM 2066	OD1	ASP	B	257	-59.956	31.005	45.461	1.00	37.64	B	O
ATOM 2067	OD2	ASP	B	257	-58.536	32.120	46.726	1.00	37.64	B	O
ATOM 2068	C	ASP	B	257	-58.503	32.733	41.940	1.00	40.36	B	C
ATOM 2069	O	ASP	B	257	-57.435	32.724	41.318	1.00	44.82	B	O
ATOM 2070	N	GLU	B	258	-59.504	33.558	41.661	1.00	25.60	B	N
ATOM 2071	CA	GLU	B	258	-59.414	34.554	40.609	1.00	22.26	B	C
ATOM 2072	CB	GLU	B	258	-60.308	34.169	39.430	1.00	47.46	B	C
ATOM 2073	CG	GLU	B	258	-59.783	33.026	38.582	1.00	47.46	B	C
ATOM 2074	CD	GLU	B	258	-60.707	32.695	37.410	1.00	47.46	B	C
ATOM 2075	OE1	GLU	B	258	-60.296	31.922	36.513	1.00	47.46	B	O
ATOM 2076	OE2	GLU	B	258	-61.851	33.200	37.386	1.00	47.46	B	O
ATOM 2077	C	GLU	B	258	-59.847	35.909	41.172	1.00	20.97	B	C
ATOM 2078	O	GLU	B	258	-60.700	35.986	42.059	1.00	20.97	B	O
ATOM 2079	N	LEU	B	259	-59.237	36.974	40.675	1.00	42.91	B	N
ATOM 2080	CA	LEU	B	259	-59.594	38.317	41.102	1.00	39.38	B	C
ATOM 2081	CB	LEU	B	259	-58.369	39.055	41.636	1.00	25.22	B	C
ATOM 2082	CG	LEU	B	259	-57.653	38.507	42.878	1.00	25.22	B	C
ATOM 2083	CD1	LEU	B	259	-56.339	39.269	43.077	1.00	25.22	B	C
ATOM 2084	CD2	LEU	B	259	-58.540	38.639	44.109	1.00	25.22	B	C
ATOM 2085	C	LEU	B	259	-60.113	39.010	39.844	1.00	36.72	B	C
ATOM 2086	O	LEU	B	259	-59.555	38.828	38.764	1.00	40.80	B	O
ATOM 2087	N	GLN	B	260	-61.185	39.784	39.970	1.00	21.61	B	N
ATOM 2088	CA	GLN	B	260	-61.747	40.485	38.825	1.00	20.37	B	C
ATOM 2089	CB	GLN	B	260	-62.940	39.707	38.265	1.00	40.96	B	C
ATOM 2090	CG	GLN	B	260	-64.217	39.867	39.091	1.00	40.96	B	C
ATOM 2091	CD	GLN	B	260	-65.360	38.995	38.610	1.00	40.96	B	C
ATOM 2092	OE1	GLN	B	260	-66.509	39.197	39.006	1.00	40.96	B	O
ATOM 2093	NE2	GLN	B	260	-65.051	38.008	37.766	1.00	40.96	B	N
ATOM 2094	C	GLN	B	260	-62.210	41.859	39.293	1.00	20.36	B	C
ATOM 2095	O	GLN	B	260	-62.566	42.028	40.454	1.00	17.89	B	O
ATOM 2096	N	LEU	B	261	-62.212	42.842	38.400	1.00	30.28	B	N
ATOM 2097	CA	LEU	B	261	-62.655	44.187	38.760	1.00	30.59	B	C
ATOM 2098	CB	LEU	B	261	-61.623	45.218	38.307	1.00	23.26	B	C
ATOM 2099	CG	LEU	B	261	-61.826	46.633	38.839	1.00	23.26	B	C
ATOM 2100	CD1	LEU	B	261	-60.511	47.374	38.775	1.00	23.26	B	C
ATOM 2101	CD2	LEU	B	261	-62.898	47.355	38.039	1.00	23.26	B	C
ATOM 2102	C	LEU	B	261	-63.989	44.418	38.070	1.00	34.26	B	C
ATOM 2103	O	LEU	B	261	-64.070	44.386	36.846	1.00	34.93	B	O
ATOM 2104	N	ALA	B	262	-65.038	44.652	38.851	1.00	27.20	B	N
ATOM 2105	CA	ALA	B	262	-66.365	44.835	38.279	1.00	29.60	B	C
ATOM 2106	CB	ALA	B	262	-67.262	43.681	38.703	1.00	50.07	B	C
ATOM 2107	C	ALA	B	262	-67.035	46.148	38.631	1.00	28.90	B	C
ATOM 2108	O	ALA	B	262	-66.950	46.616	39.765	1.00	28.93	B	O
ATOM 2109	N	ILE	B	263	-67.714	46.727	37.646	1.00	26.82	B	N

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Figure 8-33

ATOM 2110	CA	ILE	B	263	-68.447	47.979	37.825	1.00	25.86	B	C
ATOM 2111	CB	ILE	B	263	-68.133	48.975	36.692	1.00	26.53	B	C
ATOM 2112	CG2	ILE	B	263	-68.959	50.242	36.867	1.00	26.53	B	C
ATOM 2113	CG1	ILE	B	263	-66.634	49.295	36.696	1.00	26.53	B	C
ATOM 2114	CD1	ILE	B	263	-66.158	50.057	35.486	1.00	26.53	B	C
ATOM 2115	C	ILE	B	263	-69.944	47.652	37.816	1.00	24.18	B	C
ATOM 2116	O	ILE	B	263	-70.489	47.222	36.800	1.00	23.93	B	O
ATOM 2117	N	PRO	B	264	-70.623	47.854	38.954	1.00	31.79	B	N
ATOM 2118	CD	PRO	B	264	-70.029	48.345	40.201	1.00	29.61	B	C
ATOM 2119	CA	PRO	B	264	-72.054	47.591	39.148	1.00	31.79	B	C
ATOM 2120	CB	PRO	B	264	-72.230	47.720	40.663	1.00	29.61	B	C
ATOM 2121	CG	PRO	B	264	-70.834	47.596	41.207	1.00	29.61	B	C
ATOM 2122	C	PRO	B	264	-72.959	48.563	38.405	1.00	31.79	B	C
ATOM 2123	O	PRO	B	264	-73.786	49.248	39.016	1.00	31.79	B	O
ATOM 2124	N	ARG	B	265	-72.826	48.604	37.089	1.00	22.66	B	N
ATOM 2125	CA	ARG	B	265	-73.610	49.526	36.287	1.00	22.66	B	C
ATOM 2126	CB	ARG	B	265	-72.950	50.907	36.346	1.00	54.01	B	C
ATOM 2127	CG	ARG	B	265	-73.570	51.955	35.478	1.00	54.01	B	C
ATOM 2128	CD	ARG	B	265	-74.798	52.536	36.114	1.00	54.01	B	C
ATOM 2129	NE	ARG	B	265	-75.416	53.513	35.225	1.00	54.01	B	N
ATOM 2130	CZ	ARG	B	265	-76.506	54.208	35.526	1.00	54.01	B	C
ATOM 2131	NH1	ARG	B	265	-77.099	54.033	36.702	1.00	54.01	B	N
ATOM 2132	NH2	ARG	B	265	-77.001	55.073	34.649	1.00	54.01	B	N
ATOM 2133	C	ARG	B	265	-73.648	49.017	34.849	1.00	22.66	B	C
ATOM 2134	O	ARG	B	265	-72.651	48.494	34.347	1.00	22.66	B	O
ATOM 2135	N	GLU	B	266	-74.795	49.143	34.185	1.00	27.58	B	N
ATOM 2136	CA	GLU	B	266	-74.893	48.696	32.800	1.00	27.58	B	C
ATOM 2137	CB	GLU	B	266	-76.351	48.460	32.414	1.00	72.05	B	C
ATOM 2138	CG	GLU	B	266	-76.902	47.162	32.973	1.00	72.05	B	C
ATOM 2139	CD	GLU	B	266	-78.320	46.883	32.525	1.00	72.05	B	C
ATOM 2140	OE1	GLU	B	266	-78.589	46.932	31.304	1.00	72.05	B	O
ATOM 2141	OE2	GLU	B	266	-79.169	46.606	33.393	1.00	72.05	B	O
ATOM 2142	C	GLU	B	266	-74.256	49.776	31.935	1.00	27.58	B	C
ATOM 2143	O	GLU	B	266	-74.613	50.941	32.027	1.00	27.58	B	O
ATOM 2144	N	ASN	B	267	-73.288	49.392	31.117	1.00	39.64	B	N
ATOM 2145	CA	ASN	B	267	-72.597	50.350	30.271	1.00	39.64	B	C
ATOM 2146	CB	ASN	B	267	-73.539	50.890	29.200	1.00	70.00	B	C
ATOM 2147	CG	ASN	B	267	-74.068	49.791	28.302	1.00	70.00	B	C
ATOM 2148	OD1	ASN	B	267	-74.974	49.048	28.680	1.00	70.00	B	O
ATOM 2149	ND2	ASN	B	267	-73.485	49.662	27.114	1.00	70.00	B	N
ATOM 2150	C	ASN	B	267	-72.069	51.472	31.146	1.00	39.64	B	C
ATOM 2151	O	ASN	B	267	-72.508	52.617	31.055	1.00	39.64	B	O
ATOM 2152	N	ALA	B	268	-71.111	51.107	31.994	1.00	79.19	B	N
ATOM 2153	CA	ALA	B	268	-70.479	52.013	32.943	1.00	79.19	B	C
ATOM 2154	CB	ALA	B	268	-69.174	51.414	33.428	1.00	92.40	B	C
ATOM 2155	C	ALA	B	268	-70.226	53.436	32.477	1.00	79.19	B	C
ATOM 2156	O	ALA	B	268	-70.765	54.376	33.059	1.00	79.19	B	O
ATOM 2157	N	GLN	B	269	-69.407	53.590	31.439	1.00	35.09	B	N
ATOM 2158	CA	GLN	B	269	-69.026	54.910	30.927	1.00	33.02	B	C
ATOM 2159	CB	GLN	B	269	-70.105	55.950	31.225	1.00	63.77	B	C
ATOM 2160	CG	GLN	B	269	-70.220	57.036	30.192	1.00	56.42	B	C
ATOM 2161	CD	GLN	B	269	-70.432	56.462	28.810	1.00	56.42	B	C
ATOM 2162	OE1	GLN	B	269	-71.147	55.475	28.642	1.00	56.42	B	O
ATOM 2163	NE2	GLN	B	269	-69.814	57.079	27.810	1.00	56.42	B	N
ATOM 2164	C	GLN	B	269	-67.745	55.283	31.681	1.00	33.71	B	C
ATOM 2165	O	GLN	B	269	-67.732	56.197	32.513	1.00	32.30	B	O
ATOM 2166	N	ILE	B	270	-66.671	54.557	31.387	1.00	44.06	B	N
ATOM 2167	CA	ILE	B	270	-65.393	54.763	32.051	1.00	42.27	B	C
ATOM 2168	CB	ILE	B	270	-64.923	53.438	32.680	1.00	35.61	B	C
ATOM 2169	CG2	ILE	B	270	-65.956	52.968	33.706	1.00	39.17	B	C
ATOM 2170	CG1	ILE	B	270	-64.741	52.380	31.589	1.00	39.17	B	C
ATOM 2171	CD1	ILE	B	270	-64.163	51.084	32.097	1.00	35.61	B	C
ATOM 2172	C	ILE	B	270	-64.322	55.329	31.113	1.00	41.91	B	C
ATOM 2173	O	ILE	B	270	-64.652	55.851	30.060	1.00	39.89	B	O
ATOM 2174	N	SER	B	271	-63.047	55.214	31.473	1.00	42.11	B	N
ATOM 2175	CA	SER	B	271	-62.016	55.798	30.636	1.00	42.77	B	C

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Figure 8-34

ATOM 2176	CB	SER	B	271	-61.064	56.623	31.483	1.00	29.75	B	C
ATOM 2177	OG	SER	B	271	-60.217	57.390	30.646	1.00	24.51	B	O
ATOM 2178	C	SER	B	271	-61.198	54.924	29.706	1.00	40.08	B	C
ATOM 2179	O	SER	B	271	-60.823	55.377	28.624	1.00	41.44	B	O
ATOM 2180	N	LEU	B	272	-60.902	53.692	30.092	1.00	36.12	B	N
ATOM 2181	CA	LEU	B	272	-60.113	52.821	29.207	1.00	34.62	B	C
ATOM 2182	CB	LEU	B	272	-60.844	52.563	27.880	1.00	45.91	B	C
ATOM 2183	CG	LEU	B	272	-61.990	51.559	27.850	1.00	55.06	B	C
ATOM 2184	CD1	LEU	B	272	-61.456	50.191	28.158	1.00	55.06	B	C
ATOM 2185	CD2	LEU	B	272	-63.043	51.945	28.858	1.00	55.06	B	C
ATOM 2186	C	LEU	B	272	-58.713	53.364	28.895	1.00	40.98	B	C
ATOM 2187	O	LEU	B	272	-58.004	52.810	28.060	1.00	39.38	B	O
ATOM 2188	N	ASP	B	273	-58.329	54.453	29.553	1.00	34.44	B	N
ATOM 2189	CA	ASP	B	273	-57.000	55.036	29.374	1.00	29.61	B	C
ATOM 2190	CB	ASP	B	273	-57.038	56.503	29.805	1.00	83.40	B	C
ATOM 2191	CG	ASP	B	273	-56.313	57.408	28.846	1.00	83.40	B	C
ATOM 2192	OD1	ASP	B	273	-56.610	57.331	27.639	1.00	83.40	B	O
ATOM 2193	OD2	ASP	B	273	-55.460	58.198	29.303	1.00	83.40	B	O
ATOM 2194	C	ASP	B	273	-56.034	54.222	30.264	1.00	31.27	B	C
ATOM 2195	O	ASP	B	273	-56.107	54.287	31.491	1.00	34.60	B	O
ATOM 2196	N	GLY	B	274	-55.141	53.458	29.639	1.00	45.96	B	N
ATOM 2197	CA	GLY	B	274	-54.211	52.604	30.373	1.00	45.96	B	C
ATOM 2198	C	GLY	B	274	-53.497	53.111	31.620	1.00	45.96	B	C
ATOM 2199	O	GLY	B	274	-53.078	52.330	32.466	1.00	45.96	B	O
ATOM 2200	N	ASP	B	275	-53.376	54.424	31.737	1.00	43.90	B	N
ATOM 2201	CA	ASP	B	275	-52.705	55.063	32.860	1.00	43.90	B	C
ATOM 2202	CB	ASP	B	275	-51.836	56.209	32.355	1.00	63.82	B	C
ATOM 2203	CG	ASP	B	275	-52.655	57.344	31.781	1.00	63.82	B	C
ATOM 2204	OD1	ASP	B	275	-53.901	57.213	31.712	1.00	63.82	B	O
ATOM 2205	OD2	ASP	B	275	-52.066	58.367	31.383	1.00	63.82	B	O
ATOM 2206	C	ASP	B	275	-53.645	55.615	33.921	1.00	43.90	B	C
ATOM 2207	O	ASP	B	275	-53.212	56.328	34.816	1.00	43.90	B	O
ATOM 2208	N	VAL	B	276	-54.934	55.339	33.812	1.00	23.00	B	N
ATOM 2209	CA	VAL	B	276	-55.858	55.840	34.811	1.00	22.11	B	C
ATOM 2210	CB	VAL	B	276	-56.640	57.079	34.280	1.00	21.45	B	C
ATOM 2211	CG1	VAL	B	276	-57.647	56.680	33.237	1.00	21.45	B	C
ATOM 2212	CG2	VAL	B	276	-57.325	57.769	35.418	1.00	21.45	B	C
ATOM 2213	C	VAL	B	276	-56.810	54.721	35.247	1.00	20.22	B	C
ATOM 2214	O	VAL	B	276	-57.421	54.806	36.305	1.00	20.61	B	O
ATOM 2215	N	THR	B	277	-56.912	53.670	34.435	1.00	23.25	B	N
ATOM 2216	CA	THR	B	277	-57.754	52.520	34.734	1.00	23.34	B	C
ATOM 2217	CB	THR	B	277	-58.925	52.383	33.728	1.00	31.18	B	C
ATOM 2218	OG1	THR	B	277	-59.811	53.505	33.860	1.00	31.91	B	O
ATOM 2219	CG2	THR	B	277	-59.711	51.100	33.990	1.00	32.61	B	C
ATOM 2220	C	THR	B	277	-56.868	51.280	34.664	1.00	21.61	B	C
ATOM 2221	O	THR	B	277	-56.576	50.774	33.577	1.00	23.79	B	O
ATOM 2222	N	PHE	B	278	-56.437	50.803	35.834	1.00	31.23	B	N
ATOM 2223	CA	PHE	B	278	-55.574	49.629	35.926	1.00	25.40	B	C
ATOM 2224	CB	PHE	B	278	-54.119	50.059	36.058	1.00	20.67	B	C
ATOM 2225	CG	PHE	B	278	-53.904	51.165	37.055	1.00	20.67	B	C
ATOM 2226	CD1	PHE	B	278	-53.587	50.882	38.385	1.00	20.67	B	C
ATOM 2227	CD2	PHE	B	278	-54.032	52.493	36.668	1.00	20.67	B	C
ATOM 2228	CE1	PHE	B	278	-53.402	51.911	39.313	1.00	20.67	B	C
ATOM 2229	CE2	PHE	B	278	-53.853	53.521	37.581	1.00	20.67	B	C
ATOM 2230	CZ	PHE	B	278	-53.537	53.236	38.910	1.00	20.67	B	C
ATOM 2231	C	PHE	B	278	-55.969	48.754	37.100	1.00	27.86	B	C
ATOM 2232	O	PHE	B	278	-56.672	49.190	38.001	1.00	33.02	B	O
ATOM 2233	N	PHE	B	279	-55.488	47.519	37.082	1.00	29.21	B	N
ATOM 2234	CA	PHE	B	279	-55.813	46.529	38.090	1.00	28.61	B	C
ATOM 2235	CB	PHE	B	279	-56.952	45.684	37.519	1.00	42.80	B	C
ATOM 2236	CG	PHE	B	279	-57.458	44.629	38.432	1.00	39.87	B	C
ATOM 2237	CD1	PHE	B	279	-57.555	44.854	39.794	1.00	42.35	B	C
ATOM 2238	CD2	PHE	B	279	-57.890	43.408	37.914	1.00	37.27	B	C
ATOM 2239	CE1	PHE	B	279	-58.079	43.875	40.631	1.00	42.64	B	C
ATOM 2240	CE2	PHE	B	279	-58.415	42.423	38.736	1.00	38.01	B	C
ATOM 2241	CZ	PHE	B	279	-58.512	42.653	40.096	1.00	40.42	B	C

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Figure 8-35

ATOM 2242	C	PHE B 279	-54.538	45.718	38.331	1.00	32.59	B	C
ATOM 2243	O	PHE B 279	-53.845	45.365	37.382	1.00	30.10	B	O
ATOM 2244	N	GLY B 280	-54.209	45.439	39.588	1.00	27.23	B	N
ATOM 2245	CA	GLY B 280	-52.990	44.692	39.859	1.00	27.92	B	C
ATOM 2246	C	GLY B 280	-52.910	43.973	41.197	1.00	27.80	B	C
ATOM 2247	O	GLY B 280	-53.672	44.246	42.131	1.00	27.47	B	O
ATOM 2248	N	ALA B 281	-51.968	43.043	41.289	1.00	20.10	B	N
ATOM 2249	CA	ALA B 281	-51.776	42.269	42.505	1.00	20.10	B	C
ATOM 2250	CB	ALA B 281	-52.513	40.940	42.405	1.00	32.08	B	C
ATOM 2251	C	ALA B 281	-50.295	42.029	42.724	1.00	20.10	B	C
ATOM 2252	O	ALA B 281	-49.559	41.716	41.788	1.00	20.10	B	O
ATOM 2253	N	LEU B 282	-49.871	42.182	43.971	1.00	33.69	B	N
ATOM 2254	CA	LEU B 282	-48.477	42.003	44.358	1.00	31.58	B	C
ATOM 2255	CB	LEU B 282	-47.907	43.334	44.849	1.00	43.21	B	C
ATOM 2256	CG	LEU B 282	-46.411	43.481	45.090	1.00	47.21	B	C
ATOM 2257	CD1	LEU B 282	-46.190	44.844	45.694	1.00	43.64	B	C
ATOM 2258	CD2	LEU B 282	-45.884	42.418	46.032	1.00	49.11	B	C
ATOM 2259	C	LEU B 282	-48.445	40.980	45.488	1.00	32.45	B	C
ATOM 2260	O	LEU B 282	-49.177	41.113	46.475	1.00	31.78	B	O
ATOM 2261	N	LYS B 283	-47.603	39.958	45.350	1.00	26.07	B	N
ATOM 2262	CA	LYS B 283	-47.518	38.946	46.390	1.00	27.58	B	C
ATOM 2263	CB	LYS B 283	-47.065	37.599	45.835	1.00	36.64	B	C
ATOM 2264	CG	LYS B 283	-47.129	36.526	46.904	1.00	40.31	B	C
ATOM 2265	CD	LYS B 283	-46.774	35.160	46.386	1.00	35.16	B	C
ATOM 2266	CE	LYS B 283	-46.968	34.131	47.485	1.00	34.56	B	C
ATOM 2267	NZ	LYS B 283	-46.581	32.777	47.031	1.00	36.48	B	N
ATOM 2268	C	LYS B 283	-46.585	39.349	47.512	1.00	30.61	B	C
ATOM 2269	O	LYS B 283	-45.402	39.568	47.295	1.00	29.68	B	O
ATOM 2270	N	LEU B 284	-47.138	39.446	48.714	1.00	25.62	B	N
ATOM 2271	CA	LEU B 284	-46.365	39.813	49.882	1.00	28.97	B	C
ATOM 2272	CB	LEU B 284	-47.295	40.079	51.065	1.00	21.48	B	C
ATOM 2273	CG	LEU B 284	-48.196	41.281	50.822	1.00	18.77	B	C
ATOM 2274	CD1	LEU B 284	-49.111	41.526	52.021	1.00	16.71	B	C
ATOM 2275	CD2	LEU B 284	-47.311	42.482	50.550	1.00	20.15	B	C
ATOM 2276	C	LEU B 284	-45.424	38.675	50.208	1.00	31.64	B	C
ATOM 2277	O	LEU B 284	-45.818	37.506	50.198	1.00	33.43	B	O
ATOM 2278	N	LEU B 285	-44.177	39.025	50.487	1.00	54.05	B	N
ATOM 2279	CA	LEU B 285	-43.175	38.035	50.824	1.00	54.05	B	C
ATOM 2280	CB	LEU B 285	-41.810	38.699	50.943	1.00	53.28	B	C
ATOM 2281	CG	LEU B 285	-40.659	37.765	50.582	1.00	53.28	B	C
ATOM 2282	CD1	LEU B 285	-40.691	37.484	49.085	1.00	53.28	B	C
ATOM 2283	CD2	LEU B 285	-39.347	38.406	50.962	1.00	53.28	B	C
ATOM 2284	C	LEU B 285	-43.535	37.348	52.140	1.00	54.05	B	C
ATOM 2285	O	LEU B 285	-43.332	36.122	52.253	1.00	55.51	B	O
ATOM 2286	OXT	LEU B 285	-44.010	38.047	53.053	1.00	39.14	B	O
ATOM 2287	CB	VAL C 142	-32.345	40.951	52.613	1.00	89.46	C	C
ATOM 2288	CG1	VAL C 142	-31.892	39.731	51.835	1.00	89.46	C	C
ATOM 2289	CG2	VAL C 142	-31.146	41.681	53.220	1.00	89.46	C	C
ATOM 2290	C	VAL C 142	-33.783	42.961	52.561	1.00	91.37	C	C
ATOM 2291	O	VAL C 142	-34.506	42.631	53.496	1.00	91.37	C	O
ATOM 2292	N	VAL C 142	-32.244	42.505	50.647	1.00	91.37	C	N
ATOM 2293	CA	VAL C 142	-33.130	41.903	51.685	1.00	91.37	C	C
ATOM 2294	N	THR C 143	-33.539	44.230	52.257	1.00	87.34	C	N
ATOM 2295	CA	THR C 143	-34.104	45.303	53.058	1.00	87.34	C	C
ATOM 2296	CB	THR C 143	-33.019	46.284	53.503	1.00	79.63	C	C
ATOM 2297	OG1	THR C 143	-32.264	46.702	52.361	1.00	79.63	C	O
ATOM 2298	CG2	THR C 143	-32.097	45.632	54.514	1.00	79.63	C	C
ATOM 2299	C	THR C 143	-35.215	46.104	52.399	1.00	87.34	C	C
ATOM 2300	O	THR C 143	-35.860	46.910	53.062	1.00	87.34	C	O
ATOM 2301	N	GLN C 144	-35.435	45.914	51.102	1.00	50.23	C	N
ATOM 2302	CA	GLN C 144	-36.510	46.637	50.414	1.00	40.85	C	C
ATOM 2303	CB	GLN C 144	-37.863	46.147	50.947	1.00	87.51	C	C
ATOM 2304	CG	GLN C 144	-38.991	46.196	49.943	1.00	87.51	C	C
ATOM 2305	CD	GLN C 144	-40.252	45.523	50.445	1.00	87.51	C	C
ATOM 2306	OE1	GLN C 144	-41.180	45.270	49.674	1.00	34.72	C	O
ATOM 2307	NE2	GLN C 144	-40.296	45.232	51.743	1.00	34.72	C	N

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Figure 8-36

ATOM 2308	C	GLN	C 144	-36.402	48.165	50.590	1.00	38.04	C	C
ATOM 2309	O	GLN	C 144	-37.059	48.747	51.454	1.00	33.12	C	O
ATOM 2310	N	ASP	C 145	-35.584	48.813	49.763	1.00	26.42	C	N
ATOM 2311	CA	ASP	C 145	-35.397	50.259	49.867	1.00	26.13	C	C
ATOM 2312	CB	ASP	C 145	-34.300	50.752	48.909	1.00	54.57	C	C
ATOM 2313	CG	ASP	C 145	-32.990	50.009	49.063	1.00	72.48	C	C
ATOM 2314	OD1	ASP	C 145	-32.560	49.775	50.210	1.00	72.48	C	O
ATOM 2315	OD2	ASP	C 145	-32.377	49.677	48.025	1.00	72.48	C	O
ATOM 2316	C	ASP	C 145	-36.672	51.031	49.551	1.00	24.17	C	C
ATOM 2317	O	ASP	C 145	-37.569	50.521	48.874	1.00	23.14	C	O
ATOM 2318	N	CYS	C 146	-36.727	52.272	50.029	1.00	16.42	C	N
ATOM 2319	CA	CYS	C 146	-37.867	53.146	49.785	1.00	15.99	C	C
ATOM 2320	CB	CYS	C 146	-39.100	52.649	50.536	1.00	24.26	C	C
ATOM 2321	SG	CYS	C 146	-38.841	52.437	52.307	1.00	35.58	C	S
ATOM 2322	C	CYS	C 146	-37.558	54.581	50.206	1.00	17.36	C	C
ATOM 2323	O	CYS	C 146	-36.783	54.822	51.137	1.00	15.28	C	O
ATOM 2324	N	LEU	C 147	-38.172	55.532	49.512	1.00	29.72	C	N
ATOM 2325	CA	LEU	C 147	-37.953	56.938	49.795	1.00	29.72	C	C
ATOM 2326	CB	LEU	C 147	-36.957	57.528	48.792	1.00	21.39	C	C
ATOM 2327	CG	LEU	C 147	-36.707	59.032	48.898	1.00	21.39	C	C
ATOM 2328	CD1	LEU	C 147	-35.350	59.336	48.299	1.00	25.92	C	C
ATOM 2329	CD2	LEU	C 147	-37.821	59.814	48.201	1.00	25.92	C	C
ATOM 2330	C	LEU	C 147	-39.278	57.653	49.693	1.00	29.72	C	C
ATOM 2331	O	LEU	C 147	-40.078	57.361	48.804	1.00	30.88	C	O
ATOM 2332	N	GLN	C 148	-39.500	58.606	50.589	1.00	38.35	C	N
ATOM 2333	CA	GLN	C 148	-40.756	59.340	50.609	1.00	38.37	C	C
ATOM 2334	CB	GLN	C 148	-41.626	58.819	51.756	1.00	23.96	C	C
ATOM 2335	CG	GLN	C 148	-43.012	59.429	51.863	1.00	31.42	C	C
ATOM 2336	CD	GLN	C 148	-43.873	58.686	52.871	1.00	31.42	C	C
ATOM 2337	OE1	GLN	C 148	-44.630	57.775	52.516	1.00	31.42	C	O
ATOM 2338	NE2	GLN	C 148	-43.742	59.053	54.141	1.00	31.42	C	N
ATOM 2339	C	GLN	C 148	-40.566	60.835	50.746	1.00	39.49	C	C
ATOM 2340	O	GLN	C 148	-39.755	61.302	51.539	1.00	40.00	C	O
ATOM 2341	N	LEU	C 149	-41.331	61.576	49.961	1.00	36.03	C	N
ATOM 2342	CA	LEU	C 149	-41.296	63.026	49.981	1.00	34.76	C	C
ATOM 2343	CB	LEU	C 149	-41.058	63.558	48.565	1.00	32.70	C	C
ATOM 2344	CG	LEU	C 149	-39.652	63.726	47.980	1.00	32.70	C	C
ATOM 2345	CD1	LEU	C 149	-38.618	63.011	48.822	1.00	32.70	C	C
ATOM 2346	CD2	LEU	C 149	-39.653	63.205	46.548	1.00	20.00	C	C
ATOM 2347	C	LEU	C 149	-42.633	63.563	50.505	1.00	36.41	C	C
ATOM 2348	O	LEU	C 149	-43.686	62.964	50.281	1.00	36.80	C	O
ATOM 2349	N	ILE	C 150	-42.590	64.686	51.211	1.00	17.23	C	N
ATOM 2350	CA	ILE	C 150	-43.809	65.304	51.721	1.00	16.10	C	C
ATOM 2351	CB	ILE	C 150	-43.939	65.137	53.241	1.00	16.93	C	C
ATOM 2352	CG2	ILE	C 150	-43.919	63.656	53.598	1.00	16.93	C	C
ATOM 2353	CG1	ILE	C 150	-42.809	65.873	53.952	1.00	21.05	C	C
ATOM 2354	CD1	ILE	C 150	-42.795	65.625	55.425	1.00	21.05	C	C
ATOM 2355	C	ILE	C 150	-43.771	66.783	51.378	1.00	20.20	C	C
ATOM 2356	O	ILE	C 150	-42.701	67.391	51.352	1.00	21.25	C	O
ATOM 2357	N	ALA	C 151	-44.935	67.358	51.103	1.00	36.86	C	N
ATOM 2358	CA	ALA	C 151	-45.019	68.768	50.735	1.00	36.86	C	C
ATOM 2359	CB	ALA	C 151	-46.476	69.175	50.573	1.00	46.20	C	C
ATOM 2360	C	ALA	C 151	-44.316	69.706	51.718	1.00	36.86	C	C
ATOM 2361	O	ALA	C 151	-44.347	69.505	52.935	1.00	36.86	C	O
ATOM 2362	N	ASP	C 152	-43.671	70.727	51.169	1.00	56.30	C	N
ATOM 2363	CA	ASP	C 152	-42.968	71.717	51.971	1.00	56.30	C	C
ATOM 2364	CB	ASP	C 152	-41.656	72.100	51.290	1.00	58.38	C	C
ATOM 2365	CG	ASP	C 152	-40.898	73.166	52.047	1.00	58.38	C	C
ATOM 2366	OD1	ASP	C 152	-39.896	73.674	51.509	1.00	58.38	C	O
ATOM 2367	OD2	ASP	C 152	-41.304	73.492	53.182	1.00	58.38	C	O
ATOM 2368	C	ASP	C 152	-43.869	72.948	52.099	1.00	56.30	C	C
ATOM 2369	O	ASP	C 152	-43.952	73.773	51.188	1.00	56.30	C	O
ATOM 2370	N	SER	C 153	-44.545	73.066	53.235	1.00	50.02	C	N
ATOM 2371	CA	SER	C 153	-45.459	74.179	53.470	1.00	50.02	C	C
ATOM 2372	CB	SER	C 153	-46.298	73.903	54.714	1.00	43.42	C	C
ATOM 2373	OG	SER	C 153	-45.464	73.611	55.820	1.00	43.42	C	O

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Figure 8-37

ATOM 2374	C	SER C 153	-44.740	75.506	53.636	1.00	50.02	C	C
ATOM 2375	O	SER C 153	-45.372	76.537	53.842	1.00	50.02	C	O
ATOM 2376	N	GLU C 154	-43.418	75.476	53.535	1.00	61.37	C	N
ATOM 2377	CA	GLU C 154	-42.609	76.678	53.695	1.00	61.37	C	C
ATOM 2378	CB	GLU C 154	-41.302	76.314	54.400	1.00	98.51	C	C
ATOM 2379	CG	GLU C 154	-40.858	77.334	55.410	1.00	98.51	C	C
ATOM 2380	CD	GLU C 154	-41.801	77.398	56.585	1.00	98.51	C	C
ATOM 2381	OE1	GLU C 154	-41.847	76.414	57.350	1.00	98.51	C	O
ATOM 2382	OE2	GLU C 154	-42.501	78.420	56.740	1.00	98.51	C	O
ATOM 2383	C	GLU C 154	-42.286	77.367	52.364	1.00	61.37	C	C
ATOM 2384	O	GLU C 154	-42.004	78.563	52.321	1.00	61.37	C	O
ATOM 2385	N	THR C 155	-42.335	76.604	51.280	1.00	52.64	C	N
ATOM 2386	CA	THR C 155	-42.010	77.114	49.955	1.00	52.64	C	C
ATOM 2387	CB	THR C 155	-40.985	76.209	49.291	1.00	42.78	C	C
ATOM 2388	OG1	THR C 155	-39.814	76.157	50.111	1.00	42.78	C	O
ATOM 2389	CG2	THR C 155	-40.637	76.711	47.898	1.00	42.78	C	C
ATOM 2390	C	THR C 155	-43.189	77.215	49.012	1.00	52.64	C	C
ATOM 2391	O	THR C 155	-44.087	76.380	49.030	1.00	52.64	C	O
ATOM 2392	N	PRO C 156	-43.196	78.243	48.158	1.00	43.68	C	N
ATOM 2393	CD	PRO C 156	-42.234	79.353	48.047	1.00	34.97	C	C
ATOM 2394	CA	PRO C 156	-44.292	78.413	47.205	1.00	43.68	C	C
ATOM 2395	CB	PRO C 156	-44.045	79.815	46.656	1.00	34.97	C	C
ATOM 2396	CG	PRO C 156	-42.548	79.911	46.676	1.00	34.97	C	C
ATOM 2397	C	PRO C 156	-44.210	77.335	46.122	1.00	43.68	C	C
ATOM 2398	O	PRO C 156	-43.127	76.820	45.819	1.00	43.68	C	O
ATOM 2399	N	THR C 157	-45.354	76.996	45.544	1.00	50.82	C	N
ATOM 2400	CA	THR C 157	-45.393	75.983	44.500	1.00	50.82	C	C
ATOM 2401	CB	THR C 157	-46.823	75.717	44.040	1.00	62.63	C	C
ATOM 2402	OG1	THR C 157	-47.321	76.860	43.337	1.00	62.63	C	O
ATOM 2403	CG2	THR C 157	-47.707	75.446	45.240	1.00	62.63	C	C
ATOM 2404	C	THR C 157	-44.572	76.438	43.304	1.00	50.82	C	C
ATOM 2405	O	THR C 157	-44.510	77.624	43.001	1.00	50.82	C	O
ATOM 2406	N	ILE C 158	-43.952	75.483	42.623	1.00	50.85	C	N
ATOM 2407	CA	ILE C 158	-43.115	75.770	41.468	1.00	50.85	C	C
ATOM 2408	CB	ILE C 158	-42.033	74.700	41.316	1.00	37.29	C	C
ATOM 2409	CG2	ILE C 158	-41.091	75.068	40.192	1.00	37.29	C	C
ATOM 2410	CG1	ILE C 158	-41.268	74.552	42.627	1.00	37.29	C	C
ATOM 2411	CD1	ILE C 158	-40.243	73.439	42.600	1.00	37.29	C	C
ATOM 2412	C	ILE C 158	-43.891	75.831	40.157	1.00	50.85	C	C
ATOM 2413	O	ILE C 158	-44.642	74.917	39.833	1.00	50.85	C	O
ATOM 2414	N	GLN C 159	-43.693	76.908	39.402	1.00	61.94	C	N
ATOM 2415	CA	GLN C 159	-44.348	77.079	38.107	1.00	61.94	C	C
ATOM 2416	CB	GLN C 159	-44.872	78.495	37.975	1.00	70.81	C	C
ATOM 2417	CG	GLN C 159	-45.881	78.806	39.033	1.00	70.81	C	C
ATOM 2418	CD	GLN C 159	-47.050	77.849	38.989	1.00	70.81	C	C
ATOM 2419	OE1	GLN C 159	-47.676	77.577	40.010	1.00	70.81	C	O
ATOM 2420	NE2	GLN C 159	-47.359	77.340	37.800	1.00	70.81	C	N
ATOM 2421	C	GLN C 159	-43.341	76.798	37.008	1.00	61.94	C	C
ATOM 2422	O	GLN C 159	-42.235	77.331	37.024	1.00	61.94	C	O
ATOM 2423	N	LYS C 160	-43.718	75.964	36.047	1.00	60.32	C	N
ATOM 2424	CA	LYS C 160	-42.790	75.621	34.982	1.00	60.32	C	C
ATOM 2425	CB	LYS C 160	-41.673	74.746	35.559	1.00	120.28	C	C
ATOM 2426	CG	LYS C 160	-40.557	74.392	34.601	1.00	101.61	C	C
ATOM 2427	CD	LYS C 160	-39.459	73.633	35.334	1.00	101.61	C	C
ATOM 2428	CE	LYS C 160	-38.262	73.358	34.435	1.00	101.61	C	C
ATOM 2429	NZ	LYS C 160	-37.160	72.678	35.177	1.00	101.61	C	N
ATOM 2430	C	LYS C 160	-43.481	74.901	33.830	1.00	60.32	C	C
ATOM 2431	O	LYS C 160	-44.041	73.824	34.008	1.00	60.32	C	O
ATOM 2432	N	GLY C 161	-43.436	75.509	32.651	1.00	77.94	C	N
ATOM 2433	CA	GLY C 161	-44.045	74.905	31.483	1.00	77.94	C	C
ATOM 2434	C	GLY C 161	-45.542	74.700	31.590	1.00	77.94	C	C
ATOM 2435	O	GLY C 161	-46.054	73.649	31.203	1.00	77.94	C	O
ATOM 2436	N	SER C 162	-46.246	75.701	32.112	1.00	76.66	C	N
ATOM 2437	CA	SER C 162	-47.699	75.635	32.262	1.00	76.66	C	C
ATOM 2438	CB	SER C 162	-48.355	75.313	30.916	1.00	114.53	C	C
ATOM 2439	OG	SER C 162	-49.769	75.346	31.015	1.00	114.53	C	O

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Figure 8-38

ATOM 2440	C	SER	C	162	-48.138	74.612	33.310	1.00	76.66	C	C
ATOM 2441	O	SER	C	162	-49.327	74.492	33.609	1.00	76.66	C	O
ATOM 2442	N	TYR	C	163	-47.180	73.865	33.852	1.00	61.78	C	N
ATOM 2443	CA	TYR	C	163	-47.466	72.881	34.888	1.00	61.78	C	C
ATOM 2444	CB	TYR	C	163	-46.587	71.635	34.749	1.00	67.78	C	C
ATOM 2445	CG	TYR	C	163	-47.006	70.623	33.709	1.00	67.78	C	C
ATOM 2446	CD1	TYR	C	163	-48.275	70.649	33.137	1.00	67.78	C	C
ATOM 2447	CE1	TYR	C	163	-48.665	69.685	32.211	1.00	67.78	C	C
ATOM 2448	CD2	TYR	C	163	-46.132	69.605	33.329	1.00	67.78	C	C
ATOM 2449	CE2	TYR	C	163	-46.506	68.635	32.409	1.00	67.78	C	C
ATOM 2450	CZ	TYR	C	163	-47.777	68.678	31.851	1.00	67.78	C	C
ATOM 2451	OH	TYR	C	163	-48.153	67.714	30.936	1.00	67.78	C	O
ATOM 2452	C	TYR	C	163	-47.130	73.525	36.219	1.00	61.78	C	C
ATOM 2453	O	TYR	C	163	-46.578	74.623	36.269	1.00	61.78	C	O
ATOM 2454	N	THR	C	164	-47.460	72.828	37.297	1.00	40.85	C	N
ATOM 2455	CA	THR	C	164	-47.163	73.295	38.643	1.00	40.85	C	C
ATOM 2456	CB	THR	C	164	-48.396	73.956	39.285	1.00	30.43	C	C
ATOM 2457	OG1	THR	C	164	-48.159	74.160	40.683	1.00	30.43	C	O
ATOM 2458	CG2	THR	C	164	-49.605	73.097	39.095	1.00	30.43	C	C
ATOM 2459	C	THR	C	164	-46.680	72.102	39.477	1.00	40.85	C	C
ATOM 2460	O	THR	C	164	-47.332	71.058	39.539	1.00	40.85	C	O
ATOM 2461	N	PHE	C	165	-45.516	72.264	40.094	1.00	34.27	C	N
ATOM 2462	CA	PHE	C	165	-44.916	71.214	40.895	1.00	34.27	C	C
ATOM 2463	CB	PHE	C	165	-43.493	70.958	40.410	1.00	29.42	C	C
ATOM 2464	CG	PHE	C	165	-43.414	70.658	38.955	1.00	29.42	C	C
ATOM 2465	CD1	PHE	C	165	-43.531	71.677	38.021	1.00	29.42	C	C
ATOM 2466	CD2	PHE	C	165	-43.286	69.349	38.508	1.00	29.42	C	C
ATOM 2467	CE1	PHE	C	165	-43.526	71.400	36.656	1.00	29.42	C	C
ATOM 2468	CE2	PHE	C	165	-43.281	69.061	37.150	1.00	29.42	C	C
ATOM 2469	CZ	PHE	C	165	-43.402	70.092	36.222	1.00	29.42	C	C
ATOM 2470	C	PHE	C	165	-44.893	71.574	42.361	1.00	34.27	C	C
ATOM 2471	O	PHE	C	165	-44.695	72.728	42.714	1.00	34.27	C	O
ATOM 2472	N	VAL	C	166	-45.088	70.592	43.228	1.00	19.30	C	N
ATOM 2473	CA	VAL	C	166	-45.064	70.901	44.646	1.00	19.30	C	C
ATOM 2474	CB	VAL	C	166	-45.998	69.954	45.469	1.00	22.25	C	C
ATOM 2475	CG1	VAL	C	166	-46.772	69.040	44.527	1.00	22.25	C	C
ATOM 2476	CG2	VAL	C	166	-45.198	69.148	46.482	1.00	22.25	C	C
ATOM 2477	C	VAL	C	166	-43.632	70.811	45.165	1.00	19.30	C	C
ATOM 2478	O	VAL	C	166	-42.837	70.000	44.702	1.00	19.30	C	O
ATOM 2479	N	PRO	C	167	-43.285	71.677	46.121	1.00	38.20	C	N
ATOM 2480	CD	PRO	C	167	-44.111	72.804	46.570	1.00	27.37	C	C
ATOM 2481	CA	PRO	C	167	-41.960	71.732	46.742	1.00	38.20	C	C
ATOM 2482	CB	PRO	C	167	-42.004	73.025	47.546	1.00	27.37	C	C
ATOM 2483	CG	PRO	C	167	-43.068	73.832	46.871	1.00	27.37	C	C
ATOM 2484	C	PRO	C	167	-41.855	70.538	47.669	1.00	38.20	C	C
ATOM 2485	O	PRO	C	167	-42.631	70.440	48.621	1.00	38.20	C	O
ATOM 2486	N	TRP	C	168	-40.916	69.633	47.410	1.00	27.48	C	N
ATOM 2487	CA	TRP	C	168	-40.783	68.462	48.266	1.00	28.71	C	C
ATOM 2488	CB	TRP	C	168	-40.450	67.205	47.449	1.00	37.09	C	C
ATOM 2489	CG	TRP	C	168	-41.503	66.834	46.474	1.00	31.35	C	C
ATOM 2490	CD2	TRP	C	168	-42.863	66.507	46.768	1.00	31.92	C	C
ATOM 2491	CE2	TRP	C	168	-43.513	66.282	45.533	1.00	31.31	C	C
ATOM 2492	CE3	TRP	C	168	-43.600	66.383	47.957	1.00	33.05	C	C
ATOM 2493	CD1	TRP	C	168	-41.381	66.791	45.122	1.00	34.20	C	C
ATOM 2494	NE1	TRP	C	168	-42.582	66.464	44.547	1.00	37.18	C	N
ATOM 2495	CZ2	TRP	C	168	-44.869	65.941	45.445	1.00	31.07	C	C
ATOM 2496	CZ3	TRP	C	168	-44.952	66.044	47.872	1.00	36.81	C	C
ATOM 2497	CH2	TRP	C	168	-45.571	65.827	46.621	1.00	35.02	C	C
ATOM 2498	C	TRP	C	168	-39.741	68.620	49.356	1.00	29.02	C	C
ATOM 2499	O	TRP	C	168	-38.730	69.309	49.198	1.00	30.68	C	O
ATOM 2500	N	LEU	C	169	-40.012	67.953	50.466	1.00	38.26	C	N
ATOM 2501	CA	LEU	C	169	-39.137	67.942	51.615	1.00	38.73	C	C
ATOM 2502	CB	LEU	C	169	-39.849	68.606	52.782	1.00	35.03	C	C
ATOM 2503	CG	LEU	C	169	-39.032	69.641	53.532	1.00	35.03	C	C
ATOM 2504	CD1	LEU	C	169	-39.964	70.547	54.300	1.00	35.03	C	C
ATOM 2505	CD2	LEU	C	169	-38.042	68.927	54.447	1.00	35.03	C	C

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Figure 8-39

ATOM 2506	C	LEU	C	169	-38.942	66.453	51.860	1.00	39.36	C	C
ATOM 2507	O	LEU	C	169	-39.906	65.695	51.822	1.00	37.71	C	O
ATOM 2508	N	LEU	C	170	-37.711	66.017	52.085	1.00	31.23	C	N
ATOM 2509	CA	LEU	C	170	-37.472	64.593	52.299	1.00	31.23	C	C
ATOM 2510	CB	LEU	C	170	-35.976	64.279	52.268	1.00	35.58	C	C
ATOM 2511	CG	LEU	C	170	-35.700	62.811	52.612	1.00	35.58	C	C
ATOM 2512	CD1	LEU	C	170	-36.184	61.911	51.475	1.00	35.58	C	C
ATOM 2513	CD2	LEU	C	170	-34.237	62.603	52.848	1.00	35.58	C	C
ATOM 2514	C	LEU	C	170	-38.049	64.044	53.597	1.00	31.23	C	C
ATOM 2515	O	LEU	C	170	-37.560	64.350	54.683	1.00	31.98	C	O
ATOM 2516	N	SER	C	171	-39.086	63.221	53.483	1.00	40.68	C	N
ATOM 2517	CA	SER	C	171	-39.693	62.616	54.660	1.00	40.69	C	C
ATOM 2518	CB	SER	C	171	-40.950	61.838	54.276	1.00	47.12	C	C
ATOM 2519	OG	SER	C	171	-41.339	60.963	55.324	1.00	47.12	C	O
ATOM 2520	C	SER	C	171	-38.662	61.661	55.243	1.00	39.08	C	C
ATOM 2521	O	SER	C	171	-38.338	61.724	56.422	1.00	38.78	C	O
ATOM 2522	N	PHE	C	172	-38.152	60.775	54.398	1.00	41.97	C	N
ATOM 2523	CA	PHE	C	172	-37.151	59.816	54.816	1.00	38.49	C	C
ATOM 2524	CB	PHE	C	172	-37.748	58.824	55.821	1.00	48.26	C	C
ATOM 2525	CG	PHE	C	172	-38.536	57.719	55.185	1.00	26.92	C	C
ATOM 2526	CD1	PHE	C	172	-37.889	56.622	54.617	1.00	26.92	C	C
ATOM 2527	CD2	PHE	C	172	-39.919	57.794	55.108	1.00	26.92	C	C
ATOM 2528	CE1	PHE	C	172	-38.609	55.618	53.973	1.00	26.92	C	C
ATOM 2529	CE2	PHE	C	172	-40.651	56.794	54.467	1.00	26.92	C	C
ATOM 2530	CZ	PHE	C	172	-39.993	55.703	53.897	1.00	26.92	C	C
ATOM 2531	C	PHE	C	172	-36.642	59.073	53.586	1.00	40.03	C	C
ATOM 2532	O	PHE	C	172	-37.334	58.955	52.572	1.00	40.82	C	O
ATOM 2533	N	LYS	C	173	-35.419	58.581	53.686	1.00	41.12	C	N
ATOM 2534	CA	LYS	C	173	-34.783	57.831	52.616	1.00	40.16	C	C
ATOM 2535	CB	LYS	C	173	-33.633	58.642	52.018	1.00	31.33	C	C
ATOM 2536	CG	LYS	C	173	-32.706	57.877	51.096	1.00	50.33	C	C
ATOM 2537	CD	LYS	C	173	-31.529	58.750	50.691	1.00	50.33	C	C
ATOM 2538	CE	LYS	C	173	-30.600	58.028	49.732	1.00	50.33	C	C
ATOM 2539	NZ	LYS	C	173	-30.067	56.770	50.313	1.00	50.33	C	N
ATOM 2540	C	LYS	C	173	-34.248	56.584	53.290	1.00	41.94	C	C
ATOM 2541	O	LYS	C	173	-33.596	56.662	54.327	1.00	43.43	C	O
ATOM 2542	N	ARG	C	174	-34.533	55.429	52.712	1.00	27.31	C	N
ATOM 2543	CA	ARG	C	174	-34.078	54.177	53.290	1.00	27.31	C	C
ATOM 2544	CB	ARG	C	174	-35.256	53.452	53.926	1.00	36.88	C	C
ATOM 2545	CG	ARG	C	174	-34.886	52.180	54.633	1.00	36.88	C	C
ATOM 2546	CD	ARG	C	174	-36.108	51.344	54.927	1.00	36.88	C	C
ATOM 2547	NE	ARG	C	174	-35.756	50.137	55.670	1.00	36.88	C	N
ATOM 2548	CZ	ARG	C	174	-36.355	48.961	55.508	1.00	36.88	C	C
ATOM 2549	NH1	ARG	C	174	-37.341	48.831	54.625	1.00	36.88	C	N
ATOM 2550	NH2	ARG	C	174	-35.971	47.915	56.222	1.00	36.88	C	N
ATOM 2551	C	ARG	C	174	-33.480	53.304	52.211	1.00	27.31	C	C
ATOM 2552	O	ARG	C	174	-34.192	52.824	51.328	1.00	27.31	C	O
ATOM 2553	N	GLY	C	175	-32.169	53.111	52.266	1.00	40.27	C	N
ATOM 2554	CA	GLY	C	175	-31.523	52.276	51.272	1.00	40.27	C	C
ATOM 2555	C	GLY	C	175	-30.726	53.018	50.213	1.00	40.27	C	C
ATOM 2556	O	GLY	C	175	-30.685	54.254	50.187	1.00	40.27	C	O
ATOM 2557	N	SER	C	176	-30.104	52.234	49.331	1.00	51.51	C	N
ATOM 2558	CA	SER	C	176	-29.268	52.737	48.251	1.00	51.51	C	C
ATOM 2559	CB	SER	C	176	-28.277	51.657	47.835	1.00	63.49	C	C
ATOM 2560	OG	SER	C	176	-28.930	50.409	47.684	1.00	63.49	C	O
ATOM 2561	C	SER	C	176	-30.045	53.216	47.033	1.00	51.51	C	C
ATOM 2562	O	SER	C	176	-29.850	54.342	46.585	1.00	51.51	C	O
ATOM 2563	N	ALA	C	177	-30.909	52.366	46.483	1.00	54.32	C	N
ATOM 2564	CA	ALA	C	177	-31.708	52.751	45.322	1.00	54.32	C	C
ATOM 2565	CB	ALA	C	177	-32.538	51.598	44.863	1.00	27.46	C	C
ATOM 2566	C	ALA	C	177	-32.616	53.873	45.765	1.00	54.32	C	C
ATOM 2567	O	ALA	C	177	-32.955	53.967	46.944	1.00	54.32	C	O
ATOM 2568	N	LEU	C	178	-33.021	54.730	44.841	1.00	45.55	C	N
ATOM 2569	CA	LEU	C	178	-33.903	55.827	45.221	1.00	45.55	C	C
ATOM 2570	CB	LEU	C	178	-35.149	55.270	45.901	1.00	46.36	C	C
ATOM 2571	CG	LEU	C	178	-36.405	54.968	45.088	1.00	27.43	C	C

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Figure 8-40

ATOM 2572	CD1	LEU	C	178	-36.081	54.535	43.665	1.00	27.43	C	C
ATOM 2573	CD2	LEU	C	178	-37.187	53.895	45.834	1.00	27.43	C	C
ATOM 2574	C	LEU	C	178	-33.279	56.862	46.159	1.00	45.55	C	C
ATOM 2575	O	LEU	C	178	-32.922	56.546	47.295	1.00	45.55	C	O
ATOM 2576	N	GLU	C	179	-33.147	58.093	45.673	1.00	25.12	C	N
ATOM 2577	CA	GLU	C	179	-32.634	59.202	46.469	1.00	25.12	C	C
ATOM 2578	CB	GLU	C	179	-31.103	59.240	46.483	1.00	89.61	C	C
ATOM 2579	CG	GLU	C	179	-30.429	59.232	45.140	1.00	38.81	C	C
ATOM 2580	CD	GLU	C	179	-28.907	59.086	45.262	1.00	38.81	C	C
ATOM 2581	OE1	GLU	C	179	-28.433	58.047	45.783	1.00	38.81	C	O
ATOM 2582	OE2	GLU	C	179	-28.182	60.016	44.833	1.00	38.81	C	O
ATOM 2583	C	GLU	C	179	-33.231	60.428	45.818	1.00	25.12	C	C
ATOM 2584	O	GLU	C	179	-33.639	60.360	44.671	1.00	25.12	C	O
ATOM 2585	N	GLU	C	180	-33.332	61.531	46.550	1.00	30.20	C	N
ATOM 2586	CA	GLU	C	180	-33.933	62.739	45.998	1.00	30.20	C	C
ATOM 2587	CB	GLU	C	180	-34.482	63.605	47.132	1.00	33.27	C	C
ATOM 2588	CG	GLU	C	180	-34.938	64.984	46.710	1.00	33.27	C	C
ATOM 2589	CD	GLU	C	180	-35.518	65.770	47.869	1.00	33.27	C	C
ATOM 2590	OE1	GLU	C	180	-34.986	65.649	48.994	1.00	43.06	C	O
ATOM 2591	OE2	GLU	C	180	-36.497	66.521	47.660	1.00	43.06	C	O
ATOM 2592	C	GLU	C	180	-32.956	63.538	45.146	1.00	30.20	C	C
ATOM 2593	O	GLU	C	180	-31.883	63.925	45.614	1.00	30.20	C	O
ATOM 2594	N	LYS	C	181	-33.334	63.782	43.895	1.00	66.48	C	N
ATOM 2595	CA	LYS	C	181	-32.489	64.529	42.976	1.00	66.48	C	C
ATOM 2596	CB	LYS	C	181	-32.677	64.018	41.550	1.00	72.09	C	C
ATOM 2597	CG	LYS	C	181	-31.791	64.689	40.506	1.00	72.09	C	C
ATOM 2598	CD	LYS	C	181	-30.345	64.274	40.642	1.00	72.09	C	C
ATOM 2599	CE	LYS	C	181	-29.534	64.728	39.441	1.00	72.09	C	C
ATOM 2600	NZ	LYS	C	181	-28.178	64.111	39.434	1.00	72.09	C	N
ATOM 2601	C	LYS	C	181	-32.818	66.009	43.030	1.00	66.48	C	C
ATOM 2602	O	LYS	C	181	-32.493	66.693	44.002	1.00	66.48	C	O
ATOM 2603	N	GLU	C	182	-33.479	66.506	41.994	1.00	27.59	C	N
ATOM 2604	CA	GLU	C	182	-33.805	67.913	41.949	1.00	27.59	C	C
ATOM 2605	CB	GLU	C	182	-33.339	68.522	40.628	1.00	98.04	C	C
ATOM 2606	CG	GLU	C	182	-31.898	68.194	40.298	1.00	98.04	C	C
ATOM 2607	CD	GLU	C	182	-31.453	68.796	38.991	1.00	98.04	C	C
ATOM 2608	OE1	GLU	C	182	-31.258	70.026	38.947	1.00	98.04	C	O
ATOM 2609	OE2	GLU	C	182	-31.309	68.039	38.007	1.00	98.04	C	O
ATOM 2610	C	GLU	C	182	-35.293	68.045	42.099	1.00	27.59	C	C
ATOM 2611	O	GLU	C	182	-36.004	68.376	41.153	1.00	27.59	C	O
ATOM 2612	N	ASN	C	183	-35.756	67.783	43.313	1.00	32.26	C	N
ATOM 2613	CA	ASN	C	183	-37.165	67.851	43.650	1.00	32.26	C	C
ATOM 2614	CB	ASN	C	183	-37.766	69.186	43.239	1.00	27.03	C	C
ATOM 2615	CG	ASN	C	183	-39.108	69.429	43.888	1.00	27.03	C	C
ATOM 2616	OD1	ASN	C	183	-39.213	69.506	45.119	1.00	27.03	C	O
ATOM 2617	ND2	ASN	C	183	-40.152	69.547	43.064	1.00	27.03	C	N
ATOM 2618	C	ASN	C	183	-37.905	66.719	42.973	1.00	32.26	C	C
ATOM 2619	O	ASN	C	183	-39.115	66.779	42.774	1.00	32.26	C	O
ATOM 2620	N	LYS	C	184	-37.159	65.688	42.605	1.00	40.74	C	N
ATOM 2621	CA	LYS	C	184	-37.751	64.517	41.988	1.00	40.74	C	C
ATOM 2622	CB	LYS	C	184	-37.643	64.588	40.459	1.00	58.91	C	C
ATOM 2623	CG	LYS	C	184	-36.599	65.540	39.929	1.00	58.91	C	C
ATOM 2624	CD	LYS	C	184	-36.799	65.743	38.439	1.00	58.91	C	C
ATOM 2625	CE	LYS	C	184	-35.747	66.669	37.857	1.00	58.91	C	C
ATOM 2626	NZ	LYS	C	184	-35.878	66.775	36.371	1.00	58.91	C	N
ATOM 2627	C	LYS	C	184	-37.061	63.269	42.540	1.00	40.74	C	C
ATOM 2628	O	LYS	C	184	-35.986	63.359	43.134	1.00	40.74	C	O
ATOM 2629	N	ILE	C	185	-37.693	62.115	42.382	1.00	30.04	C	N
ATOM 2630	CA	ILE	C	185	-37.115	60.879	42.869	1.00	28.53	C	C
ATOM 2631	CB	ILE	C	185	-38.198	59.857	43.211	1.00	10.39	C	C
ATOM 2632	CG2	ILE	C	185	-37.549	58.553	43.626	1.00	10.39	C	C
ATOM 2633	CG1	ILE	C	185	-39.103	60.415	44.317	1.00	10.39	C	C
ATOM 2634	CD1	ILE	C	185	-40.343	59.592	44.608	1.00	10.39	C	C
ATOM 2635	C	ILE	C	185	-36.208	60.285	41.802	1.00	28.99	C	C
ATOM 2636	O	ILE	C	185	-36.634	60.052	40.666	1.00	32.18	C	O
ATOM 2637	N	LEU	C	186	-34.957	60.040	42.177	1.00	26.37	C	N

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Figure 8-41

ATOM 2638	CA	LEU	C	186	-33.973	59.471	41.267	1.00	25.57	C	C
ATOM 2639	CB	LEU	C	186	-32.634	60.208	41.408	1.00	42.97	C	C
ATOM 2640	CG	LEU	C	186	-31.455	59.588	40.650	1.00	42.97	C	C
ATOM 2641	CD1	LEU	C	186	-31.805	59.454	39.166	1.00	42.97	C	C
ATOM 2642	CD2	LEU	C	186	-30.226	60.441	40.845	1.00	42.97	C	C
ATOM 2643	C	LEU	C	186	-33.747	57.981	41.503	1.00	22.71	C	C
ATOM 2644	O	LEU	C	186	-33.388	57.569	42.605	1.00	29.64	C	O
ATOM 2645	N	VAL	C	187	-33.946	57.178	40.464	1.00	27.84	C	N
ATOM 2646	CA	VAL	C	187	-33.746	55.741	40.578	1.00	29.34	C	C
ATOM 2647	CB	VAL	C	187	-34.470	54.982	39.466	1.00	23.87	C	C
ATOM 2648	CG1	VAL	C	187	-34.156	53.491	39.574	1.00	21.92	C	C
ATOM 2649	CG2	VAL	C	187	-35.953	55.221	39.562	1.00	30.93	C	C
ATOM 2650	C	VAL	C	187	-32.265	55.419	40.471	1.00	31.55	C	C
ATOM 2651	O	VAL	C	187	-31.618	55.787	39.494	1.00	33.87	C	O
ATOM 2652	N	LYS	C	188	-31.730	54.720	41.467	1.00	37.45	C	N
ATOM 2653	CA	LYS	C	188	-30.313	54.375	41.459	1.00	39.34	C	C
ATOM 2654	CB	LYS	C	188	-29.672	54.710	42.815	1.00	52.76	C	C
ATOM 2655	CG	LYS	C	188	-29.181	56.150	42.927	1.00	56.74	C	C
ATOM 2656	CD	LYS	C	188	-28.065	56.402	41.921	1.00	62.03	C	C
ATOM 2657	CE	LYS	C	188	-27.687	57.874	41.815	1.00	66.99	C	C
ATOM 2658	NZ	LYS	C	188	-27.058	58.409	43.056	1.00	52.16	C	N
ATOM 2659	C	LYS	C	188	-30.054	52.924	41.101	1.00	37.15	C	C
ATOM 2660	O	LYS	C	188	-28.960	52.577	40.690	1.00	39.73	C	O
ATOM 2661	N	GLU	C	189	-31.060	52.076	41.253	1.00	35.10	C	N
ATOM 2662	CA	GLU	C	189	-30.916	50.663	40.923	1.00	37.79	C	C
ATOM 2663	CB	GLU	C	189	-30.828	49.815	42.183	1.00	67.23	C	C
ATOM 2664	CG	GLU	C	189	-29.760	50.245	43.147	1.00	67.23	C	C
ATOM 2665	CD	GLU	C	189	-29.751	49.394	44.400	1.00	67.23	C	C
ATOM 2666	OE1	GLU	C	189	-28.950	49.686	45.314	1.00	67.23	C	O
ATOM 2667	OE2	GLU	C	189	-30.545	48.429	44.470	1.00	67.23	C	O
ATOM 2668	C	GLU	C	189	-32.130	50.220	40.135	1.00	35.31	C	C
ATOM 2669	O	GLU	C	189	-33.240	50.215	40.650	1.00	35.87	C	O
ATOM 2670	N	THR	C	190	-31.928	49.844	38.885	1.00	32.57	C	N
ATOM 2671	CA	THR	C	190	-33.040	49.406	38.069	1.00	34.14	C	C
ATOM 2672	CB	THR	C	190	-32.550	49.082	36.639	1.00	24.24	C	C
ATOM 2673	OG1	THR	C	190	-33.143	47.862	36.190	1.00	24.24	C	O
ATOM 2674	CG2	THR	C	190	-31.050	48.964	36.611	1.00	24.24	C	C
ATOM 2675	C	THR	C	190	-33.751	48.200	38.710	1.00	32.62	C	C
ATOM 2676	O	THR	C	190	-33.113	47.331	39.310	1.00	33.27	C	O
ATOM 2677	N	GLY	C	191	-35.080	48.178	38.599	1.00	28.05	C	N
ATOM 2678	CA	GLY	C	191	-35.885	47.104	39.163	1.00	29.50	C	C
ATOM 2679	C	GLY	C	191	-37.365	47.458	39.172	1.00	29.70	C	C
ATOM 2680	O	GLY	C	191	-37.788	48.373	38.457	1.00	32.41	C	O
ATOM 2681	N	TYR	C	192	-38.162	46.741	39.965	1.00	27.76	C	N
ATOM 2682	CA	TYR	C	192	-39.599	47.027	40.050	1.00	27.30	C	C
ATOM 2683	CB	TYR	C	192	-40.411	45.739	40.153	1.00	42.35	C	C
ATOM 2684	CG	TYR	C	192	-40.447	44.962	38.868	1.00	42.35	C	C
ATOM 2685	CD1	TYR	C	192	-39.372	44.172	38.485	1.00	42.35	C	C
ATOM 2686	CE1	TYR	C	192	-39.371	43.500	37.275	1.00	42.35	C	C
ATOM 2687	CD2	TYR	C	192	-41.536	45.063	38.002	1.00	42.35	C	C
ATOM 2688	CE2	TYR	C	192	-41.548	44.399	36.784	1.00	42.35	C	C
ATOM 2689	CZ	TYR	C	192	-40.456	43.620	36.426	1.00	42.35	C	C
ATOM 2690	OH	TYR	C	192	-40.418	42.979	35.211	1.00	42.35	C	O
ATOM 2691	C	TYR	C	192	-39.904	47.912	41.247	1.00	25.54	C	C
ATOM 2692	O	TYR	C	192	-39.381	47.697	42.339	1.00	26.59	C	O
ATOM 2693	N	PHE	C	193	-40.749	48.913	41.043	1.00	30.89	C	N
ATOM 2694	CA	PHE	C	193	-41.085	49.819	42.128	1.00	30.89	C	C
ATOM 2695	CB	PHE	C	193	-40.363	51.167	41.960	1.00	31.62	C	C
ATOM 2696	CG	PHE	C	193	-38.855	51.081	42.011	1.00	31.62	C	C
ATOM 2697	CD1	PHE	C	193	-38.132	50.582	40.936	1.00	31.62	C	C
ATOM 2698	CD2	PHE	C	193	-38.155	51.526	43.138	1.00	31.62	C	C
ATOM 2699	CE1	PHE	C	193	-36.741	50.528	40.978	1.00	31.62	C	C
ATOM 2700	CE2	PHE	C	193	-36.761	51.475	43.188	1.00	31.62	C	C
ATOM 2701	CZ	PHE	C	193	-36.057	50.977	42.108	1.00	31.62	C	C
ATOM 2702	C	PHE	C	193	-42.571	50.106	42.273	1.00	30.89	C	C
ATOM 2703	O	PHE	C	193	-43.303	50.234	41.284	1.00	30.89	C	O

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Figure 8-42

ATOM 2704	N	PHE	C	194	-43.000	50.207	43.527	1.00	22.32	C	N
ATOM 2705	CA	PHE	C	194	-44.372	50.544	43.854	1.00	22.80	C	C
ATOM 2706	CB	PHE	C	194	-44.775	49.904	45.186	1.00	20.11	C	C
ATOM 2707	CG	PHE	C	194	-46.114	50.348	45.684	1.00	20.11	C	C
ATOM 2708	CD1	PHE	C	194	-47.275	49.989	45.006	1.00	20.11	C	C
ATOM 2709	CD2	PHE	C	194	-46.215	51.157	46.812	1.00	20.11	C	C
ATOM 2710	CE1	PHE	C	194	-48.516	50.432	45.439	1.00	20.11	C	C
ATOM 2711	CE2	PHE	C	194	-47.447	51.608	47.257	1.00	20.11	C	C
ATOM 2712	CZ	PHE	C	194	-48.598	51.246	46.572	1.00	20.11	C	C
ATOM 2713	C	PHE	C	194	-44.255	52.052	44.007	1.00	23.19	C	C
ATOM 2714	O	PHE	C	194	-43.463	52.532	44.817	1.00	25.31	C	O
ATOM 2715	N	ILE	C	195	-45.013	52.799	43.216	1.00	31.21	C	N
ATOM 2716	CA	ILE	C	195	-44.951	54.252	43.267	1.00	28.42	C	C
ATOM 2717	CB	ILE	C	195	-44.556	54.817	41.902	1.00	25.82	C	C
ATOM 2718	CG2	ILE	C	195	-44.372	56.312	41.991	1.00	25.82	C	C
ATOM 2719	CG1	ILE	C	195	-43.276	54.144	41.422	1.00	25.82	C	C
ATOM 2720	CD1	ILE	C	195	-42.901	54.512	40.003	1.00	25.82	C	C
ATOM 2721	C	ILE	C	195	-46.307	54.811	43.641	1.00	27.39	C	C
ATOM 2722	O	ILE	C	195	-47.314	54.380	43.092	1.00	26.01	C	O
ATOM 2723	N	TYR	C	196	-46.332	55.774	44.562	1.00	20.09	C	N
ATOM 2724	CA	TYR	C	196	-47.592	56.386	45.004	1.00	24.62	C	C
ATOM 2725	CB	TYR	C	196	-48.069	55.773	46.324	1.00	18.94	C	C
ATOM 2726	CG	TYR	C	196	-47.051	55.889	47.429	1.00	13.83	C	C
ATOM 2727	CD1	TYR	C	196	-45.962	55.025	47.488	1.00	17.14	C	C
ATOM 2728	CE1	TYR	C	196	-44.984	55.161	48.472	1.00	15.50	C	C
ATOM 2729	CD2	TYR	C	196	-47.145	56.895	48.385	1.00	17.28	C	C
ATOM 2730	CE2	TYR	C	196	-46.174	57.041	49.373	1.00	20.45	C	C
ATOM 2731	CZ	TYR	C	196	-45.096	56.168	49.411	1.00	16.56	C	C
ATOM 2732	OH	TYR	C	196	-44.137	56.286	50.385	1.00	16.79	C	O
ATOM 2733	C	TYR	C	196	-47.461	57.886	45.193	1.00	25.87	C	C
ATOM 2734	O	TYR	C	196	-46.399	58.389	45.549	1.00	23.08	C	O
ATOM 2735	N	GLY	C	197	-48.564	58.587	44.963	1.00	29.13	C	N
ATOM 2736	CA	GLY	C	197	-48.572	60.028	45.096	1.00	27.95	C	C
ATOM 2737	C	GLY	C	197	-49.964	60.554	45.370	1.00	28.70	C	C
ATOM 2738	O	GLY	C	197	-50.945	60.126	44.763	1.00	27.04	C	O
ATOM 2739	N	GLN	C	198	-50.046	61.489	46.302	1.00	29.13	C	N
ATOM 2740	CA	GLN	C	198	-51.311	62.095	46.668	1.00	31.82	C	C
ATOM 2741	CB	GLN	C	198	-51.843	61.483	47.961	1.00	14.77	C	C
ATOM 2742	CG	GLN	C	198	-52.997	62.268	48.560	1.00	17.87	C	C
ATOM 2743	CD	GLN	C	198	-53.524	61.660	49.841	1.00	21.13	C	C
ATOM 2744	OE1	GLN	C	198	-53.962	60.507	49.853	1.00	19.79	C	O
ATOM 2745	NE2	GLN	C	198	-53.496	62.430	50.926	1.00	18.38	C	N
ATOM 2746	C	GLN	C	198	-51.154	63.592	46.875	1.00	31.77	C	C
ATOM 2747	O	GLN	C	198	-50.149	64.054	47.412	1.00	32.60	C	O
ATOM 2748	N	VAL	C	199	-52.152	64.347	46.445	1.00	17.67	C	N
ATOM 2749	CA	VAL	C	199	-52.135	65.787	46.630	1.00	20.82	C	C
ATOM 2750	CB	VAL	C	199	-51.556	66.547	45.381	1.00	15.72	C	C
ATOM 2751	CG1	VAL	C	199	-51.536	65.656	44.180	1.00	14.48	C	C
ATOM 2752	CG2	VAL	C	199	-52.362	67.797	45.099	1.00	17.19	C	C
ATOM 2753	C	VAL	C	199	-53.542	66.269	46.940	1.00	22.95	C	C
ATOM 2754	O	VAL	C	199	-54.520	65.754	46.389	1.00	21.67	C	O
ATOM 2755	N	LEU	C	200	-53.638	67.237	47.851	1.00	18.13	C	N
ATOM 2756	CA	LEU	C	200	-54.928	67.795	48.233	1.00	17.19	C	C
ATOM 2757	CB	LEU	C	200	-54.916	68.162	49.716	1.00	9.89	C	C
ATOM 2758	CG	LEU	C	200	-56.047	69.072	50.225	1.00	9.89	C	C
ATOM 2759	CD1	LEU	C	200	-57.394	68.618	49.674	1.00	9.89	C	C
ATOM 2760	CD2	LEU	C	200	-56.037	69.072	51.757	1.00	9.89	C	C
ATOM 2761	C	LEU	C	200	-55.261	69.020	47.378	1.00	18.17	C	C
ATOM 2762	O	LEU	C	200	-54.632	70.075	47.505	1.00	19.59	C	O
ATOM 2763	N	TYR	C	201	-56.238	68.863	46.491	1.00	44.63	C	N
ATOM 2764	CA	TYR	C	201	-56.649	69.944	45.616	1.00	44.89	C	C
ATOM 2765	CB	TYR	C	201	-57.274	69.372	44.354	1.00	36.36	C	C
ATOM 2766	CG	TYR	C	201	-56.254	68.617	43.563	1.00	36.36	C	C
ATOM 2767	CD1	TYR	C	201	-55.174	69.280	42.985	1.00	36.36	C	C
ATOM 2768	CE1	TYR	C	201	-54.164	68.586	42.344	1.00	36.36	C	C
ATOM 2769	CD2	TYR	C	201	-56.300	67.235	43.470	1.00	36.36	C	C

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Figure 8-43

ATOM 2770	CE2	TYR	C	201	-55.289	66.523	42.829	1.00	36.36	C	C
ATOM 2771	CZ	TYR	C	201	-54.225	67.209	42.275	1.00	36.36	C	C
ATOM 2772	OH	TYR	C	201	-53.197	66.528	41.676	1.00	36.36	C	O
ATOM 2773	C	TYR	C	201	-57.603	70.885	46.324	1.00	44.33	C	C
ATOM 2774	O	TYR	C	201	-58.616	70.469	46.885	1.00	43.79	C	O
ATOM 2775	N	THR	C	202	-57.254	72.164	46.302	1.00	35.98	C	N
ATOM 2776	CA	THR	C	202	-58.043	73.185	46.956	1.00	41.23	C	C
ATOM 2777	CB	THR	C	202	-57.220	73.802	48.104	1.00	50.96	C	C
ATOM 2778	OG1	THR	C	202	-58.030	74.724	48.828	1.00	50.96	C	O
ATOM 2779	CG2	THR	C	202	-56.007	74.521	47.571	1.00	50.96	C	C
ATOM 2780	C	THR	C	202	-58.445	74.244	45.924	1.00	39.87	C	C
ATOM 2781	O	THR	C	202	-58.854	75.354	46.260	1.00	39.00	C	O
ATOM 2782	N	ASP	C	203	-58.324	73.865	44.658	1.00	43.51	C	N
ATOM 2783	CA	ASP	C	203	-58.658	74.722	43.528	1.00	43.51	C	C
ATOM 2784	CB	ASP	C	203	-57.706	74.396	42.370	1.00	65.69	C	C
ATOM 2785	CG	ASP	C	203	-57.969	75.224	41.138	1.00	65.69	C	C
ATOM 2786	OD1	ASP	C	203	-57.026	75.400	40.341	1.00	65.69	C	O
ATOM 2787	OD2	ASP	C	203	-59.112	75.688	40.951	1.00	65.69	C	O
ATOM 2788	C	ASP	C	203	-60.110	74.440	43.152	1.00	43.51	C	C
ATOM 2789	O	ASP	C	203	-60.592	73.330	43.359	1.00	43.51	C	O
ATOM 2790	N	LYS	C	204	-60.820	75.430	42.615	1.00	43.02	C	N
ATOM 2791	CA	LYS	C	204	-62.215	75.202	42.245	1.00	43.02	C	C
ATOM 2792	CB	LYS	C	204	-63.105	76.303	42.826	1.00	72.07	C	C
ATOM 2793	CG	LYS	C	204	-62.841	77.689	42.282	1.00	72.07	C	C
ATOM 2794	CD	LYS	C	204	-63.743	78.717	42.951	1.00	72.07	C	C
ATOM 2795	CE	LYS	C	204	-63.450	78.826	44.443	1.00	72.07	C	C
ATOM 2796	NZ	LYS	C	204	-64.332	79.818	45.126	1.00	72.07	C	N
ATOM 2797	C	LYS	C	204	-62.516	75.026	40.747	1.00	43.02	C	C
ATOM 2798	O	LYS	C	204	-63.665	75.187	40.323	1.00	43.02	C	O
ATOM 2799	N	THR	C	205	-61.504	74.681	39.950	1.00	51.00	C	N
ATOM 2800	CA	THR	C	205	-61.717	74.461	38.517	1.00	51.00	C	C
ATOM 2801	CB	THR	C	205	-60.384	74.357	37.757	1.00	45.49	C	C
ATOM 2802	OG1	THR	C	205	-59.745	73.122	38.087	1.00	45.49	C	O
ATOM 2803	CG2	THR	C	205	-59.471	75.499	38.137	1.00	45.49	C	C
ATOM 2804	C	THR	C	205	-62.486	73.144	38.367	1.00	51.00	C	C
ATOM 2805	O	THR	C	205	-62.355	72.268	39.213	1.00	51.00	C	O
ATOM 2806	N	TYR	C	206	-63.268	72.995	37.298	1.00	46.14	C	N
ATOM 2807	CA	TYR	C	206	-64.080	71.786	37.101	1.00	46.14	C	C
ATOM 2808	CB	TYR	C	206	-64.518	71.637	35.634	1.00	86.01	C	C
ATOM 2809	CG	TYR	C	206	-63.438	71.170	34.683	1.00	86.01	C	C
ATOM 2810	CD1	TYR	C	206	-63.693	70.166	33.746	1.00	86.01	C	C
ATOM 2811	CE1	TYR	C	206	-62.706	69.747	32.849	1.00	86.01	C	C
ATOM 2812	CD2	TYR	C	206	-62.168	71.744	34.703	1.00	86.01	C	C
ATOM 2813	CE2	TYR	C	206	-61.175	71.335	33.812	1.00	86.01	C	C
ATOM 2814	CZ	TYR	C	206	-61.450	70.337	32.889	1.00	86.01	C	C
ATOM 2815	OH	TYR	C	206	-60.467	69.935	32.012	1.00	86.01	C	O
ATOM 2816	C	TYR	C	206	-63.427	70.482	37.562	1.00	46.14	C	C
ATOM 2817	O	TYR	C	206	-64.086	69.626	38.168	1.00	46.14	C	O
ATOM 2818	N	ALA	C	207	-62.135	70.330	37.288	1.00	31.75	C	N
ATOM 2819	CA	ALA	C	207	-61.431	69.114	37.678	1.00	31.75	C	C
ATOM 2820	CB	ALA	C	207	-61.675	68.039	36.647	1.00	18.38	C	C
ATOM 2821	C	ALA	C	207	-59.934	69.325	37.865	1.00	31.75	C	C
ATOM 2822	O	ALA	C	207	-59.303	70.063	37.118	1.00	31.75	C	O
ATOM 2823	N	MET	C	208	-59.375	68.671	38.874	1.00	49.92	C	N
ATOM 2824	CA	MET	C	208	-57.954	68.779	39.169	1.00	49.92	C	C
ATOM 2825	CB	MET	C	208	-57.743	69.479	40.511	1.00	41.68	C	C
ATOM 2826	CG	MET	C	208	-58.096	70.946	40.488	1.00	41.68	C	C
ATOM 2827	SD	MET	C	208	-57.034	71.827	39.332	1.00	41.68	C	S
ATOM 2828	CE	MET	C	208	-55.624	72.154	40.385	1.00	41.68	C	C
ATOM 2829	C	MET	C	208	-57.353	67.386	39.217	1.00	49.92	C	C
ATOM 2830	O	MET	C	208	-58.079	66.394	39.230	1.00	49.92	C	O
ATOM 2831	N	GLY	C	209	-56.026	67.309	39.237	1.00	31.00	C	N
ATOM 2832	CA	GLY	C	209	-55.375	66.013	39.293	1.00	31.00	C	C
ATOM 2833	C	GLY	C	209	-53.892	66.117	39.028	1.00	31.00	C	C
ATOM 2834	O	GLY	C	209	-53.393	67.183	38.657	1.00	31.00	C	O
ATOM 2835	N	HIS	C	210	-53.171	65.020	39.225	1.00	29.97	C	N

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Figure 8-44

ATOM 2836	CA	HIS	C	210	-51.735	65.040	38.983	1.00	29.97	C	C
ATOM 2837	CB	HIS	C	210	-50.945	65.099	40.295	1.00	27.06	C	C
ATOM 2838	CG	HIS	C	210	-51.304	64.026	41.276	1.00	27.06	C	C
ATOM 2839	CD2	HIS	C	210	-50.567	63.022	41.805	1.00	27.06	C	C
ATOM 2840	ND1	HIS	C	210	-52.543	63.949	41.880	1.00	27.06	C	N
ATOM 2841	CE1	HIS	C	210	-52.551	62.950	42.744	1.00	27.06	C	C
ATOM 2842	NE2	HIS	C	210	-51.365	62.371	42.718	1.00	27.06	C	N
ATOM 2843	C	HIS	C	210	-51.262	63.859	38.174	1.00	29.97	C	C
ATOM 2844	O	HIS	C	210	-51.979	62.881	37.990	1.00	29.97	C	O
ATOM 2845	N	LEU	C	211	-50.035	63.967	37.691	1.00	30.78	C	N
ATOM 2846	CA	LEU	C	211	-49.429	62.926	36.889	1.00	32.75	C	C
ATOM 2847	CB	LEU	C	211	-49.026	63.470	35.525	1.00	33.15	C	C
ATOM 2848	CG	LEU	C	211	-50.008	64.409	34.843	1.00	32.41	C	C
ATOM 2849	CD1	LEU	C	211	-49.304	65.099	33.704	1.00	32.41	C	C
ATOM 2850	CD2	LEU	C	211	-51.217	63.644	34.364	1.00	32.41	C	C
ATOM 2851	C	LEU	C	211	-48.169	62.477	37.587	1.00	33.83	C	C
ATOM 2852	O	LEU	C	211	-47.349	63.306	37.991	1.00	36.82	C	O
ATOM 2853	N	ILE	C	212	-48.025	61.172	37.765	1.00	40.59	C	N
ATOM 2854	CA	ILE	C	212	-46.812	60.650	38.353	1.00	38.30	C	C
ATOM 2855	CB	ILE	C	212	-47.082	59.445	39.246	1.00	32.84	C	C
ATOM 2856	CG2	ILE	C	212	-45.783	58.752	39.589	1.00	39.65	C	C
ATOM 2857	CG1	ILE	C	212	-47.761	59.918	40.529	1.00	39.65	C	C
ATOM 2858	CD1	ILE	C	212	-48.159	58.793	41.465	1.00	39.65	C	C
ATOM 2859	C	ILE	C	212	-46.089	60.252	37.085	1.00	36.25	C	C
ATOM 2860	O	ILE	C	212	-46.455	59.274	36.429	1.00	37.25	C	O
ATOM 2861	N	GLN	C	213	-45.086	61.043	36.720	1.00	25.14	C	N
ATOM 2862	CA	GLN	C	213	-44.349	60.797	35.492	1.00	26.32	C	C
ATOM 2863	CB	GLN	C	213	-44.236	62.094	34.693	1.00	39.81	C	C
ATOM 2864	CG	GLN	C	213	-45.548	62.826	34.536	1.00	46.24	C	C
ATOM 2865	CD	GLN	C	213	-45.390	64.107	33.754	1.00	46.24	C	C
ATOM 2866	OE1	GLN	C	213	-44.521	64.929	34.048	1.00	46.24	C	O
ATOM 2867	NE2	GLN	C	213	-46.233	64.290	32.751	1.00	46.24	C	N
ATOM 2868	C	GLN	C	213	-42.964	60.202	35.659	1.00	24.29	C	C
ATOM 2869	O	GLN	C	213	-42.326	60.336	36.695	1.00	23.01	C	O
ATOM 2870	N	ARG	C	214	-42.516	59.549	34.595	1.00	35.63	C	N
ATOM 2871	CA	ARG	C	214	-41.208	58.923	34.532	1.00	36.20	C	C
ATOM 2872	CB	ARG	C	214	-41.368	57.474	34.130	1.00	40.13	C	C
ATOM 2873	CG	ARG	C	214	-40.071	56.785	33.886	1.00	32.11	C	C
ATOM 2874	CD	ARG	C	214	-40.309	55.477	33.213	1.00	32.11	C	C
ATOM 2875	NE	ARG	C	214	-39.077	54.722	33.069	1.00	32.11	C	N
ATOM 2876	CZ	ARG	C	214	-38.926	53.717	32.215	1.00	32.11	C	C
ATOM 2877	NH1	ARG	C	214	-39.936	53.364	31.431	1.00	32.11	C	N
ATOM 2878	NH2	ARG	C	214	-37.777	53.058	32.151	1.00	32.11	C	N
ATOM 2879	C	ARG	C	214	-40.339	59.630	33.489	1.00	34.85	C	C
ATOM 2880	O	ARG	C	214	-40.721	59.724	32.317	1.00	35.87	C	O
ATOM 2881	N	LYS	C	215	-39.183	60.134	33.924	1.00	46.56	C	N
ATOM 2882	CA	LYS	C	215	-38.238	60.814	33.037	1.00	51.21	C	C
ATOM 2883	CB	LYS	C	215	-37.584	61.986	33.765	1.00	153.80	C	C
ATOM 2884	CG	LYS	C	215	-37.069	63.093	32.870	1.00	75.44	C	C
ATOM 2885	CD	LYS	C	215	-36.330	64.135	33.702	1.00	75.44	C	C
ATOM 2886	CE	LYS	C	215	-36.073	65.424	32.934	1.00	75.44	C	C
ATOM 2887	NZ	LYS	C	215	-37.328	66.195	32.691	1.00	75.44	C	N
ATOM 2888	C	LYS	C	215	-37.196	59.741	32.717	1.00	49.45	C	C
ATOM 2889	O	LYS	C	215	-36.359	59.420	33.556	1.00	48.55	C	O
ATOM 2890	N	LYS	C	216	-37.266	59.179	31.510	1.00	41.76	C	N
ATOM 2891	CA	LYS	C	216	-36.365	58.109	31.079	1.00	41.76	C	C
ATOM 2892	CB	LYS	C	216	-36.989	57.346	29.906	1.00	83.55	C	C
ATOM 2893	CG	LYS	C	216	-38.300	56.660	30.240	1.00	67.22	C	C
ATOM 2894	CD	LYS	C	216	-38.824	55.836	29.075	1.00	67.22	C	C
ATOM 2895	CE	LYS	C	216	-39.283	56.706	27.913	1.00	67.22	C	C
ATOM 2896	NZ	LYS	C	216	-39.889	55.884	26.825	1.00	67.22	C	N
ATOM 2897	C	LYS	C	216	-34.970	58.562	30.679	1.00	41.76	C	C
ATOM 2898	O	LYS	C	216	-34.808	59.616	30.075	1.00	41.76	C	O
ATOM 2899	N	VAL	C	217	-33.961	57.764	31.016	1.00	38.60	C	N
ATOM 2900	CA	VAL	C	217	-32.589	58.096	30.642	1.00	38.60	C	C
ATOM 2901	CB	VAL	C	217	-31.554	57.434	31.567	1.00	38.61	C	C

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Figure 8-45

ATOM 2902	CG1	VAL	C	217	-31.527	58.136	32.877	1.00	38.61	C	C
ATOM 2903	CG2	VAL	C	217	-31.878	55.961	31.759	1.00	38.61	C	C
ATOM 2904	C	VAL	C	217	-32.328	57.596	29.229	1.00	38.60	C	C
ATOM 2905	O	VAL	C	217	-31.512	58.156	28.500	1.00	38.60	C	O
ATOM 2906	N	HIS	C	218	-33.015	56.522	28.855	1.00	112.76	C	N
ATOM 2907	CA	HIS	C	218	-32.860	55.961	27.528	1.00	112.76	C	C
ATOM 2908	CB	HIS	C	218	-32.674	54.448	27.601	1.00	175.16	C	C
ATOM 2909	CG	HIS	C	218	-31.464	54.043	28.381	1.00	175.16	C	C
ATOM 2910	CD2	HIS	C	218	-31.202	52.940	29.121	1.00	175.16	C	C
ATOM 2911	ND1	HIS	C	218	-30.330	54.823	28.438	1.00	175.16	C	N
ATOM 2912	CE1	HIS	C	218	-29.421	54.217	29.180	1.00	175.16	C	C
ATOM 2913	NE2	HIS	C	218	-29.925	53.073	29.606	1.00	175.16	C	N
ATOM 2914	C	HIS	C	218	-34.079	56.347	26.736	1.00	112.76	C	C
ATOM 2915	O	HIS	C	218	-35.204	55.927	27.015	1.00	112.76	C	O
ATOM 2916	N	VAL	C	219	-33.823	57.286	25.835	1.00	43.68	C	N
ATOM 2917	CA	VAL	C	219	-34.827	57.840	24.944	1.00	43.68	C	C
ATOM 2918	CB	VAL	C	219	-35.015	59.344	25.236	1.00	53.99	C	C
ATOM 2919	CG1	VAL	C	219	-33.669	60.055	25.191	1.00	53.99	C	C
ATOM 2920	CG2	VAL	C	219	-35.991	59.952	24.244	1.00	53.99	C	C
ATOM 2921	C	VAL	C	219	-34.357	57.620	23.496	1.00	43.68	C	C
ATOM 2922	O	VAL	C	219	-33.476	58.333	23.007	1.00	43.68	C	O
ATOM 2923	N	PHE	C	220	-34.952	56.628	22.829	1.00	84.26	C	N
ATOM 2924	CA	PHE	C	220	-34.594	56.256	21.457	1.00	84.26	C	C
ATOM 2925	CB	PHE	C	220	-35.760	55.547	20.759	1.00	198.66	C	C
ATOM 2926	CG	PHE	C	220	-35.603	54.047	20.645	1.00	198.66	C	C
ATOM 2927	CD1	PHE	C	220	-34.346	53.463	20.505	1.00	198.66	C	C
ATOM 2928	CD2	PHE	C	220	-36.727	53.221	20.610	1.00	198.66	C	C
ATOM 2929	CE1	PHE	C	220	-34.213	52.081	20.330	1.00	198.66	C	C
ATOM 2930	CE2	PHE	C	220	-36.605	51.842	20.435	1.00	198.66	C	C
ATOM 2931	CZ	PHE	C	220	-35.347	51.272	20.293	1.00	198.66	C	C
ATOM 2932	C	PHE	C	220	-34.127	57.402	20.576	1.00	84.26	C	C
ATOM 2933	O	PHE	C	220	-32.936	57.707	20.519	1.00	84.26	C	O
ATOM 2934	N	GLY	C	221	-35.068	58.027	19.879	1.00	38.44	C	N
ATOM 2935	CA	GLY	C	221	-34.714	59.121	18.993	1.00	38.44	C	C
ATOM 2936	C	GLY	C	221	-35.665	60.285	19.156	1.00	38.44	C	C
ATOM 2937	O	GLY	C	221	-35.452	61.160	19.995	1.00	38.44	C	O
ATOM 2938	N	ASP	C	222	-36.715	60.311	18.345	1.00	83.52	C	N
ATOM 2939	CA	ASP	C	222	-37.703	61.374	18.442	1.00	83.52	C	C
ATOM 2940	CB	ASP	C	222	-38.418	61.564	17.098	1.00	89.05	C	C
ATOM 2941	CG	ASP	C	222	-38.857	60.249	16.469	1.00	89.05	C	C
ATOM 2942	OD1	ASP	C	222	-39.528	60.297	15.418	1.00	89.05	C	O
ATOM 2943	OD2	ASP	C	222	-38.532	59.170	17.011	1.00	89.05	C	O
ATOM 2944	C	ASP	C	222	-38.699	60.986	19.532	1.00	83.52	C	C
ATOM 2945	O	ASP	C	222	-39.653	61.709	19.807	1.00	83.52	C	O
ATOM 2946	N	GLU	C	223	-38.441	59.847	20.168	1.00	45.02	C	N
ATOM 2947	CA	GLU	C	223	-39.301	59.322	21.219	1.00	45.02	C	C
ATOM 2948	CB	GLU	C	223	-38.775	57.974	21.692	1.00	52.36	C	C
ATOM 2949	CG	GLU	C	223	-38.384	57.078	20.566	1.00	52.36	C	C
ATOM 2950	CD	GLU	C	223	-38.713	55.623	20.822	1.00	52.36	C	C
ATOM 2951	OE1	GLU	C	223	-38.431	55.114	21.934	1.00	52.36	C	O
ATOM 2952	OE2	GLU	C	223	-39.242	54.984	19.887	1.00	52.36	C	O
ATOM 2953	C	GLU	C	223	-39.480	60.225	22.433	1.00	45.02	C	C
ATOM 2954	O	GLU	C	223	-38.642	61.086	22.739	1.00	45.02	C	O
ATOM 2955	N	LEU	C	224	-40.592	60.012	23.128	1.00	44.84	C	N
ATOM 2956	CA	LEU	C	224	-40.883	60.783	24.318	1.00	44.84	C	C
ATOM 2957	CB	LEU	C	224	-42.329	60.582	24.776	1.00	67.20	C	C
ATOM 2958	CG	LEU	C	224	-43.415	60.175	23.779	1.00	67.20	C	C
ATOM 2959	CD1	LEU	C	224	-43.088	58.814	23.160	1.00	67.20	C	C
ATOM 2960	CD2	LEU	C	224	-44.748	60.110	24.513	1.00	67.20	C	C
ATOM 2961	C	LEU	C	224	-39.957	60.250	25.388	1.00	44.84	C	C
ATOM 2962	O	LEU	C	224	-39.762	59.049	25.533	1.00	44.84	C	O
ATOM 2963	N	SER	C	225	-39.375	61.166	26.124	1.00	54.02	C	N
ATOM 2964	CA	SER	C	225	-38.477	60.863	27.220	1.00	54.02	C	C
ATOM 2965	CB	SER	C	225	-37.368	61.907	27.250	1.00	45.22	C	C
ATOM 2966	OG	SER	C	225	-37.925	63.206	27.213	1.00	45.22	C	O
ATOM 2967	C	SER	C	225	-39.266	60.902	28.533	1.00	54.02	C	C

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Figure 8-46

ATOM 2968	O	SER	C	225	-38.893	60.263	29.516	1.00	54.02	C	O
ATOM 2969	N	LEU	C	226	-40.357	61.658	28.541	1.00	31.00	C	N
ATOM 2970	CA	LEU	C	226	-41.204	61.773	29.725	1.00	29.77	C	C
ATOM 2971	CB	LEU	C	226	-41.449	63.244	30.063	1.00	23.35	C	C
ATOM 2972	CG	LEU	C	226	-42.182	63.505	31.376	1.00	23.35	C	C
ATOM 2973	CD1	LEU	C	226	-41.262	63.154	32.541	1.00	23.35	C	C
ATOM 2974	CD2	LEU	C	226	-42.594	64.958	31.457	1.00	23.35	C	C
ATOM 2975	C	LEU	C	226	-42.550	61.099	29.496	1.00	25.24	C	C
ATOM 2976	O	LEU	C	226	-43.304	61.503	28.624	1.00	26.01	C	O
ATOM 2977	N	VAL	C	227	-42.853	60.077	30.278	1.00	59.30	C	N
ATOM 2978	CA	VAL	C	227	-44.129	59.394	30.129	1.00	54.30	C	C
ATOM 2979	CB	VAL	C	227	-43.940	57.953	29.630	1.00	35.89	C	C
ATOM 2980	CG1	VAL	C	227	-43.232	57.972	28.291	1.00	35.89	C	C
ATOM 2981	CG2	VAL	C	227	-43.145	57.154	30.630	1.00	35.89	C	C
ATOM 2982	C	VAL	C	227	-44.826	59.359	31.471	1.00	50.13	C	C
ATOM 2983	O	VAL	C	227	-44.173	59.222	32.507	1.00	41.04	C	O
ATOM 2984	N	THR	C	228	-46.147	59.493	31.474	1.00	25.49	C	N
ATOM 2985	CA	THR	C	228	-46.831	59.456	32.755	1.00	27.20	C	C
ATOM 2986	CB	THR	C	228	-48.073	60.405	32.786	1.00	26.72	C	C
ATOM 2987	OG1	THR	C	228	-49.269	59.638	32.656	1.00	26.72	C	O
ATOM 2988	CG2	THR	C	228	-47.997	61.437	31.671	1.00	26.72	C	C
ATOM 2989	C	THR	C	228	-47.236	58.016	33.076	1.00	25.49	C	C
ATOM 2990	O	THR	C	228	-47.854	57.337	32.259	1.00	27.51	C	O
ATOM 2991	N	LEU	C	229	-46.847	57.555	34.261	1.00	24.57	C	N
ATOM 2992	CA	LEU	C	229	-47.156	56.202	34.708	1.00	21.26	C	C
ATOM 2993	CB	LEU	C	229	-46.203	55.796	35.834	1.00	20.93	C	C
ATOM 2994	CG	LEU	C	229	-44.829	55.229	35.470	1.00	20.93	C	C
ATOM 2995	CD1	LEU	C	229	-44.486	55.550	34.030	1.00	20.93	C	C
ATOM 2996	CD2	LEU	C	229	-43.792	55.784	36.432	1.00	20.93	C	C
ATOM 2997	C	LEU	C	229	-48.598	56.092	35.193	1.00	21.15	C	C
ATOM 2998	O	LEU	C	229	-49.355	55.252	34.716	1.00	21.50	C	O
ATOM 2999	N	PHE	C	230	-48.976	56.936	36.145	1.00	23.61	C	N
ATOM 3000	CA	PHE	C	230	-50.329	56.912	36.673	1.00	23.35	C	C
ATOM 3001	CB	PHE	C	230	-50.370	56.229	38.036	1.00	89.89	C	C
ATOM 3002	CG	PHE	C	230	-49.395	55.125	38.170	1.00	89.89	C	C
ATOM 3003	CD1	PHE	C	230	-48.213	55.317	38.872	1.00	89.89	C	C
ATOM 3004	CD2	PHE	C	230	-49.616	53.907	37.525	1.00	89.89	C	C
ATOM 3005	CE1	PHE	C	230	-47.250	54.312	38.927	1.00	89.89	C	C
ATOM 3006	CE2	PHE	C	230	-48.666	52.891	37.568	1.00	89.89	C	C
ATOM 3007	CZ	PHE	C	230	-47.476	53.092	38.270	1.00	89.89	C	C
ATOM 3008	C	PHE	C	230	-50.779	58.329	36.850	1.00	25.24	C	C
ATOM 3009	O	PHE	C	230	-49.952	59.233	36.975	1.00	24.00	C	O
ATOM 3010	N	ARG	C	231	-52.091	58.532	36.849	1.00	20.52	C	N
ATOM 3011	CA	ARG	C	231	-52.637	59.861	37.067	1.00	22.36	C	C
ATOM 3012	CB	ARG	C	231	-52.903	60.585	35.744	1.00	43.41	C	C
ATOM 3013	CG	ARG	C	231	-53.942	59.984	34.852	1.00	43.41	C	C
ATOM 3014	CD	ARG	C	231	-53.802	60.593	33.460	1.00	47.45	C	C
ATOM 3015	NE	ARG	C	231	-54.940	60.302	32.593	1.00	54.79	C	N
ATOM 3016	CZ	ARG	C	231	-56.134	60.879	32.708	1.00	65.29	C	C
ATOM 3017	NH1	ARG	C	231	-56.347	61.788	33.655	1.00	61.52	C	N
ATOM 3018	NH2	ARG	C	231	-57.121	60.543	31.884	1.00	66.06	C	N
ATOM 3019	C	ARG	C	231	-53.879	59.796	37.938	1.00	24.50	C	C
ATOM 3020	O	ARG	C	231	-54.533	58.760	38.056	1.00	27.49	C	O
ATOM 3021	N	CYS	C	232	-54.158	60.921	38.577	1.00	32.71	C	N
ATOM 3022	CA	CYS	C	232	-55.268	61.066	39.491	1.00	32.65	C	C
ATOM 3023	C	CYS	C	232	-56.120	62.225	39.005	1.00	36.11	C	C
ATOM 3024	O	CYS	C	232	-55.588	63.242	38.574	1.00	37.54	C	O
ATOM 3025	CB	CYS	C	232	-54.707	61.388	40.875	1.00	36.18	C	C
ATOM 3026	SG	CYS	C	232	-55.607	60.661	42.270	1.00	36.18	C	S
ATOM 3027	N	ILE	C	233	-57.434	62.086	39.075	1.00	21.70	C	N
ATOM 3028	CA	ILE	C	233	-58.305	63.168	38.634	1.00	23.40	C	C
ATOM 3029	CB	ILE	C	233	-58.791	62.953	37.166	1.00	51.13	C	C
ATOM 3030	CG2	ILE	C	233	-59.633	61.694	37.060	1.00	51.13	C	C
ATOM 3031	CG1	ILE	C	233	-59.639	64.138	36.717	1.00	51.13	C	C
ATOM 3032	CD1	ILE	C	233	-58.896	65.433	36.718	1.00	51.13	C	C
ATOM 3033	C	ILE	C	233	-59.504	63.259	39.577	1.00	27.88	C	C

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Figure 8-47

ATOM 3034	O	ILE	C	233	-60.094	62.242	39.962	1.00	28.34	C	O
ATOM 3035	N	GLN	C	234	-59.864	64.483	39.949	1.00	24.23	C	N
ATOM 3036	CA	GLN	C	234	-60.969	64.690	40.863	1.00	28.12	C	C
ATOM 3037	CB	GLN	C	234	-60.396	64.874	42.270	1.00	50.20	C	C
ATOM 3038	CG	GLN	C	234	-61.373	64.641	43.399	1.00	50.20	C	C
ATOM 3039	CD	GLN	C	234	-61.737	63.178	43.583	1.00	50.20	C	C
ATOM 3040	OE1	GLN	C	234	-62.728	62.856	44.237	1.00	50.20	C	O
ATOM 3041	NE2	GLN	C	234	-60.935	62.289	43.016	1.00	50.20	C	N
ATOM 3042	C	GLN	C	234	-61.786	65.917	40.441	1.00	29.07	C	C
ATOM 3043	O	GLN	C	234	-61.219	66.956	40.113	1.00	29.05	C	O
ATOM 3044	N	ASN	C	235	-63.112	65.793	40.422	1.00	33.72	C	N
ATOM 3045	CA	ASN	C	235	-63.957	66.924	40.067	1.00	37.16	C	C
ATOM 3046	CB	ASN	C	235	-65.385	66.472	39.771	1.00	26.62	C	C
ATOM 3047	CG	ASN	C	235	-65.544	65.903	38.378	1.00	26.62	C	C
ATOM 3048	OD1	ASN	C	235	-65.237	66.563	37.389	1.00	26.62	C	O
ATOM 3049	ND2	ASN	C	235	-66.039	64.683	38.291	1.00	26.62	C	N
ATOM 3050	C	ASN	C	235	-63.965	67.839	41.277	1.00	35.06	C	C
ATOM 3051	O	ASN	C	235	-63.980	67.357	42.406	1.00	32.37	C	O
ATOM 3052	N	MET	C	236	-63.948	69.148	41.052	1.00	35.12	C	N
ATOM 3053	CA	MET	C	236	-63.951	70.104	42.153	1.00	35.12	C	C
ATOM 3054	CB	MET	C	236	-62.787	71.077	41.994	1.00	33.70	C	C
ATOM 3055	CG	MET	C	236	-61.435	70.419	41.972	1.00	33.70	C	C
ATOM 3056	SD	MET	C	236	-61.039	69.658	43.544	1.00	33.70	C	S
ATOM 3057	CE	MET	C	236	-61.324	67.989	43.132	1.00	33.70	C	C
ATOM 3058	C	MET	C	236	-65.259	70.893	42.204	1.00	35.12	C	C
ATOM 3059	O	MET	C	236	-65.841	71.217	41.170	1.00	35.12	C	O
ATOM 3060	N	PRO	C	237	-65.734	71.219	43.412	1.00	44.19	C	N
ATOM 3061	CD	PRO	C	237	-65.220	70.779	44.719	1.00	29.36	C	C
ATOM 3062	CA	PRO	C	237	-66.977	71.977	43.578	1.00	44.19	C	C
ATOM 3063	CB	PRO	C	237	-67.391	71.615	44.991	1.00	29.36	C	C
ATOM 3064	CG	PRO	C	237	-66.075	71.578	45.686	1.00	29.36	C	C
ATOM 3065	C	PRO	C	237	-66.748	73.480	43.413	1.00	44.19	C	C
ATOM 3066	O	PRO	C	237	-65.604	73.932	43.337	1.00	44.19	C	O
ATOM 3067	N	GLU	C	238	-67.840	74.243	43.366	1.00	75.93	C	N
ATOM 3068	CA	GLU	C	238	-67.774	75.693	43.214	1.00	75.93	C	C
ATOM 3069	CB	GLU	C	238	-69.159	76.247	42.884	1.00	114.24	C	C
ATOM 3070	CG	GLU	C	238	-69.661	75.848	41.517	1.00	114.24	C	C
ATOM 3071	CD	GLU	C	238	-68.858	76.489	40.405	1.00	114.24	C	C
ATOM 3072	OE1	GLU	C	238	-67.614	76.362	40.416	1.00	114.24	C	O
ATOM 3073	OE2	GLU	C	238	-69.472	77.118	39.517	1.00	114.24	C	O
ATOM 3074	C	GLU	C	238	-67.243	76.383	44.465	1.00	75.93	C	C
ATOM 3075	O	GLU	C	238	-66.423	77.297	44.379	1.00	75.93	C	O
ATOM 3076	N	THR	C	239	-67.709	75.939	45.626	1.00	45.01	C	N
ATOM 3077	CA	THR	C	239	-67.290	76.531	46.891	1.00	45.01	C	C
ATOM 3078	CB	THR	C	239	-68.508	77.081	47.657	1.00	76.71	C	C
ATOM 3079	OG1	THR	C	239	-69.404	76.006	47.971	1.00	76.71	C	O
ATOM 3080	CG2	THR	C	239	-69.242	78.114	46.807	1.00	76.71	C	C
ATOM 3081	C	THR	C	239	-66.545	75.549	47.794	1.00	45.01	C	C
ATOM 3082	O	THR	C	239	-66.769	74.340	47.736	1.00	45.01	C	O
ATOM 3083	N	LEU	C	240	-65.659	76.078	48.629	1.00	50.03	C	N
ATOM 3084	CA	LEU	C	240	-64.871	75.261	49.548	1.00	50.03	C	C
ATOM 3085	CB	LEU	C	240	-65.724	74.806	50.732	1.00	39.75	C	C
ATOM 3086	CG	LEU	C	240	-66.210	75.865	51.715	1.00	39.75	C	C
ATOM 3087	CD1	LEU	C	240	-65.023	76.604	52.308	1.00	39.75	C	C
ATOM 3088	CD2	LEU	C	240	-67.142	76.822	50.997	1.00	39.75	C	C
ATOM 3089	C	LEU	C	240	-64.260	74.033	48.891	1.00	50.03	C	C
ATOM 3090	O	LEU	C	240	-64.343	72.927	49.429	1.00	50.03	C	O
ATOM 3091	N	PRO	C	241	-63.635	74.203	47.718	1.00	49.74	C	N
ATOM 3092	CD	PRO	C	241	-63.189	75.435	47.046	1.00	51.85	C	C
ATOM 3093	CA	PRO	C	241	-63.042	73.023	47.087	1.00	45.73	C	C
ATOM 3094	CB	PRO	C	241	-62.341	73.605	45.861	1.00	51.85	C	C
ATOM 3095	CG	PRO	C	241	-61.942	74.964	46.327	1.00	51.85	C	C
ATOM 3096	C	PRO	C	241	-62.077	72.368	48.072	1.00	43.32	C	C
ATOM 3097	O	PRO	C	241	-61.195	73.027	48.629	1.00	44.36	C	O
ATOM 3098	N	ASN	C	242	-62.249	71.073	48.290	1.00	50.44	C	N
ATOM 3099	CA	ASN	C	242	-61.393	70.373	49.232	1.00	47.21	C	C

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Figure 8-48

ATOM 3100	CB	ASN	C	242	-61.920	70.643	50.643	1.00	53.11	C	C
ATOM 3101	CG	ASN	C	242	-60.818	70.894	51.638	1.00	53.11	C	C
ATOM 3102	OD1	ASN	C	242	-61.064	71.362	52.751	1.00	53.11	C	O
ATOM 3103	ND2	ASN	C	242	-59.591	70.581	51.246	1.00	53.11	C	N
ATOM 3104	C	ASN	C	242	-61.338	68.863	48.949	1.00	44.77	C	C
ATOM 3105	O	ASN	C	242	-61.962	68.071	49.655	1.00	44.90	C	O
ATOM 3106	N	ASN	C	243	-60.588	68.466	47.921	1.00	36.60	C	N
ATOM 3107	CA	ASN	C	243	-60.472	67.053	47.550	1.00	33.91	C	C
ATOM 3108	CB	ASN	C	243	-61.145	66.802	46.201	1.00	24.09	C	C
ATOM 3109	CG	ASN	C	243	-62.651	66.659	46.307	1.00	24.09	C	C
ATOM 3110	OD1	ASN	C	243	-63.378	67.114	45.432	1.00	24.09	C	O
ATOM 3111	ND2	ASN	C	243	-63.124	66.012	47.363	1.00	24.09	C	N
ATOM 3112	C	ASN	C	243	-59.042	66.536	47.452	1.00	31.04	C	C
ATOM 3113	O	ASN	C	243	-58.214	67.124	46.767	1.00	30.96	C	O
ATOM 3114	N	SER	C	244	-58.753	65.431	48.132	1.00	17.43	C	N
ATOM 3115	CA	SER	C	244	-57.425	64.829	48.065	1.00	17.43	C	C
ATOM 3116	CB	SER	C	244	-57.002	64.240	49.421	1.00	28.61	C	C
ATOM 3117	OG	SER	C	244	-57.841	63.172	49.835	1.00	28.61	C	O
ATOM 3118	C	SER	C	244	-57.533	63.721	47.017	1.00	21.17	C	C
ATOM 3119	O	SER	C	244	-58.605	63.157	46.819	1.00	26.49	C	O
ATOM 3120	N	CYS	C	245	-56.432	63.419	46.342	1.00	42.89	C	N
ATOM 3121	CA	CYS	C	245	-56.446	62.394	45.314	1.00	41.14	C	C
ATOM 3122	C	CYS	C	245	-55.220	61.512	45.467	1.00	41.70	C	C
ATOM 3123	O	CYS	C	245	-54.101	62.015	45.535	1.00	39.66	C	O
ATOM 3124	CB	CYS	C	245	-56.437	63.053	43.938	1.00	45.52	C	C
ATOM 3125	SG	CYS	C	245	-57.101	61.985	42.635	1.00	45.52	C	S
ATOM 3126	N	TYR	C	246	-55.424	60.200	45.521	1.00	26.06	C	N
ATOM 3127	CA	TYR	C	246	-54.309	59.264	45.671	1.00	22.78	C	C
ATOM 3128	CB	TYR	C	246	-54.382	58.561	47.052	1.00	20.12	C	C
ATOM 3129	CG	TYR	C	246	-53.426	57.383	47.244	1.00	20.12	C	C
ATOM 3130	CD1	TYR	C	246	-52.348	57.460	48.132	1.00	20.12	C	C
ATOM 3131	CE1	TYR	C	246	-51.488	56.363	48.330	1.00	20.12	C	C
ATOM 3132	CD2	TYR	C	246	-53.619	56.186	46.553	1.00	20.12	C	C
ATOM 3133	CE2	TYR	C	246	-52.775	55.096	46.741	1.00	20.12	C	C
ATOM 3134	CZ	TYR	C	246	-51.715	55.180	47.630	1.00	20.12	C	C
ATOM 3135	OH	TYR	C	246	-50.938	54.058	47.843	1.00	20.12	C	O
ATOM 3136	C	TYR	C	246	-54.291	58.216	44.559	1.00	21.51	C	C
ATOM 3137	O	TYR	C	246	-55.327	57.697	44.153	1.00	20.69	C	O
ATOM 3138	N	SER	C	247	-53.107	57.901	44.061	1.00	34.76	C	N
ATOM 3139	CA	SER	C	247	-52.999	56.879	43.037	1.00	33.46	C	C
ATOM 3140	CB	SER	C	247	-53.172	57.480	41.647	1.00	26.72	C	C
ATOM 3141	OG	SER	C	247	-53.274	56.447	40.689	1.00	26.72	C	O
ATOM 3142	C	SER	C	247	-51.641	56.208	43.164	1.00	32.68	C	C
ATOM 3143	O	SER	C	247	-50.657	56.836	43.552	1.00	30.11	C	O
ATOM 3144	N	ALA	C	248	-51.597	54.924	42.857	1.00	24.93	C	N
ATOM 3145	CA	ALA	C	248	-50.358	54.196	42.960	1.00	25.26	C	C
ATOM 3146	CB	ALA	C	248	-50.203	53.640	44.366	1.00	15.38	C	C
ATOM 3147	C	ALA	C	248	-50.318	53.069	41.946	1.00	23.97	C	C
ATOM 3148	O	ALA	C	248	-51.356	52.627	41.449	1.00	20.64	C	O
ATOM 3149	N	GLY	C	249	-49.113	52.602	41.642	1.00	21.91	C	N
ATOM 3150	CA	GLY	C	249	-48.980	51.526	40.691	1.00	14.13	C	C
ATOM 3151	C	GLY	C	249	-47.578	50.976	40.720	1.00	18.36	C	C
ATOM 3152	O	GLY	C	249	-46.713	51.519	41.415	1.00	16.18	C	O
ATOM 3153	N	ILE	C	250	-47.352	49.897	39.979	1.00	25.00	C	N
ATOM 3154	CA	ILE	C	250	-46.037	49.292	39.937	1.00	25.00	C	C
ATOM 3155	CB	ILE	C	250	-46.123	47.774	40.190	1.00	27.18	C	C
ATOM 3156	CG2	ILE	C	250	-44.738	47.148	40.084	1.00	27.18	C	C
ATOM 3157	CG1	ILE	C	250	-46.729	47.523	41.571	1.00	27.18	C	C
ATOM 3158	CD1	ILE	C	250	-46.776	46.069	41.972	1.00	27.18	C	C
ATOM 3159	C	ILE	C	250	-45.459	49.563	38.564	1.00	25.00	C	C
ATOM 3160	O	ILE	C	250	-46.191	49.608	37.576	1.00	25.07	C	O
ATOM 3161	N	ALA	C	251	-44.151	49.770	38.500	1.00	34.94	C	N
ATOM 3162	CA	ALA	C	251	-43.505	50.037	37.225	1.00	36.24	C	C
ATOM 3163	CB	ALA	C	251	-43.641	51.491	36.872	1.00	5.50	C	C
ATOM 3164	C	ALA	C	251	-42.043	49.671	37.296	1.00	39.45	C	C
ATOM 3165	O	ALA	C	251	-41.411	49.838	38.339	1.00	38.98	C	O

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Figure 8-49

ATOM 3166	N	LYS	C	252	-41.502	49.166	36.191	1.00	37.66	C	N
ATOM 3167	CA	LYS	C	252	-40.097	48.806	36.168	1.00	37.81	C	C
ATOM 3168	CB	LYS	C	252	-39.852	47.635	35.222	1.00	76.92	C	C
ATOM 3169	CG	LYS	C	252	-38.415	47.159	35.219	1.00	77.40	C	C
ATOM 3170	CD	LYS	C	252	-38.317	45.764	34.632	1.00	77.40	C	C
ATOM 3171	CE	LYS	C	252	-36.877	45.275	34.560	1.00	77.40	C	C
ATOM 3172	NZ	LYS	C	252	-36.080	46.067	33.581	1.00	77.40	C	N
ATOM 3173	C	LYS	C	252	-39.321	50.029	35.720	1.00	38.43	C	C
ATOM 3174	O	LYS	C	252	-39.565	50.573	34.649	1.00	41.31	C	O
ATOM 3175	N	LEU	C	253	-38.407	50.479	36.567	1.00	27.08	C	N
ATOM 3176	CA	LEU	C	253	-37.590	51.648	36.261	1.00	26.81	C	C
ATOM 3177	CB	LEU	C	253	-37.651	52.661	37.417	1.00	12.04	C	C
ATOM 3178	CG	LEU	C	253	-38.883	53.533	37.671	1.00	13.58	C	C
ATOM 3179	CD1	LEU	C	253	-40.079	53.040	36.872	1.00	8.38	C	C
ATOM 3180	CD2	LEU	C	253	-39.162	53.558	39.170	1.00	9.88	C	C
ATOM 3181	C	LEU	C	253	-36.138	51.224	36.048	1.00	28.17	C	C
ATOM 3182	O	LEU	C	253	-35.688	50.217	36.602	1.00	25.75	C	O
ATOM 3183	N	GLU	C	254	-35.414	51.998	35.244	1.00	34.48	C	N
ATOM 3184	CA	GLU	C	254	-34.004	51.734	34.975	1.00	36.15	C	C
ATOM 3185	CB	GLU	C	254	-33.688	51.888	33.492	1.00	146.82	C	C
ATOM 3186	CG	GLU	C	254	-34.213	50.796	32.610	1.00	117.42	C	C
ATOM 3187	CD	GLU	C	254	-33.615	50.882	31.228	1.00	117.42	C	C
ATOM 3188	OE1	GLU	C	254	-32.378	50.755	31.109	1.00	117.42	C	O
ATOM 3189	OE2	GLU	C	254	-34.376	51.086	30.263	1.00	117.42	C	O
ATOM 3190	C	GLU	C	254	-33.140	52.724	35.740	1.00	36.94	C	C
ATOM 3191	O	GLU	C	254	-33.532	53.880	35.943	1.00	36.66	C	O
ATOM 3192	N	GLU	C	255	-31.964	52.272	36.163	1.00	35.67	C	N
ATOM 3193	CA	GLU	C	255	-31.053	53.155	36.872	1.00	34.57	C	C
ATOM 3194	CB	GLU	C	255	-29.702	52.484	37.085	1.00	73.92	C	C
ATOM 3195	CG	GLU	C	255	-28.658	53.442	37.623	1.00	73.92	C	C
ATOM 3196	CD	GLU	C	255	-27.297	52.803	37.782	1.00	73.92	C	C
ATOM 3197	OE1	GLU	C	255	-26.362	53.515	38.203	1.00	73.92	C	O
ATOM 3198	OE2	GLU	C	255	-27.165	51.594	37.491	1.00	73.92	C	O
ATOM 3199	C	GLU	C	255	-30.870	54.400	36.008	1.00	37.02	C	C
ATOM 3200	O	GLU	C	255	-30.593	54.308	34.815	1.00	40.25	C	O
ATOM 3201	N	GLY	C	256	-31.039	55.563	36.617	1.00	16.25	C	N
ATOM 3202	CA	GLY	C	256	-30.894	56.802	35.886	1.00	16.25	C	C
ATOM 3203	C	GLY	C	256	-32.233	57.488	35.705	1.00	16.25	C	C
ATOM 3204	O	GLY	C	256	-32.294	58.710	35.522	1.00	16.25	C	O
ATOM 3205	N	ASP	C	257	-33.308	56.706	35.737	1.00	20.97	C	N
ATOM 3206	CA	ASP	C	257	-34.644	57.264	35.583	1.00	24.25	C	C
ATOM 3207	CB	ASP	C	257	-35.695	56.159	35.502	1.00	46.41	C	C
ATOM 3208	CG	ASP	C	257	-35.648	55.401	34.201	1.00	46.41	C	C
ATOM 3209	OD1	ASP	C	257	-35.146	55.958	33.200	1.00	46.41	C	O
ATOM 3210	OD2	ASP	C	257	-36.136	54.253	34.180	1.00	46.41	C	O
ATOM 3211	C	ASP	C	257	-35.002	58.168	36.752	1.00	24.04	C	C
ATOM 3212	O	ASP	C	257	-34.432	58.064	37.844	1.00	28.50	C	O
ATOM 3213	N	GLU	C	258	-35.954	59.056	36.516	1.00	34.23	C	N
ATOM 3214	CA	GLU	C	258	-36.414	59.968	37.547	1.00	30.89	C	C
ATOM 3215	CB	GLU	C	258	-35.931	61.402	37.270	1.00	50.44	C	C
ATOM 3216	CG	GLU	C	258	-34.452	61.649	37.537	1.00	50.44	C	C
ATOM 3217	CD	GLU	C	258	-34.030	63.081	37.236	1.00	50.44	C	C
ATOM 3218	OE1	GLU	C	258	-32.905	63.463	37.624	1.00	50.44	C	O
ATOM 3219	OE2	GLU	C	258	-34.815	63.825	36.608	1.00	50.44	C	O
ATOM 3220	C	GLU	C	258	-37.941	59.933	37.565	1.00	29.60	C	C
ATOM 3221	O	GLU	C	258	-38.592	59.719	36.530	1.00	29.60	C	O
ATOM 3222	N	LEU	C	259	-38.511	60.118	38.749	1.00	29.00	C	N
ATOM 3223	CA	LEU	C	259	-39.956	60.144	38.893	1.00	25.47	C	C
ATOM 3224	CB	LEU	C	259	-40.417	59.092	39.904	1.00	21.61	C	C
ATOM 3225	CG	LEU	C	259	-40.157	57.613	39.604	1.00	21.61	C	C
ATOM 3226	CD1	LEU	C	259	-40.473	56.804	40.846	1.00	21.61	C	C
ATOM 3227	CD2	LEU	C	259	-40.999	57.148	38.429	1.00	21.61	C	C
ATOM 3228	C	LEU	C	259	-40.279	61.541	39.409	1.00	22.81	C	C
ATOM 3229	O	LEU	C	259	-39.567	62.061	40.265	1.00	26.89	C	O
ATOM 3230	N	GLN	C	260	-41.332	62.153	38.880	1.00	30.89	C	N
ATOM 3231	CA	GLN	C	260	-41.731	63.487	39.308	1.00	29.65	C	C

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Figure 8-50

ATOM 3232	CB	GLN	C	260	-41.220	64.527	38.319	1.00	48.71	C	C
ATOM 3233	CG	GLN	C	260	-42.035	64.596	37.039	1.00	48.71	C	C
ATOM 3234	CD	GLN	C	260	-41.442	65.531	36.000	1.00	48.71	C	C
ATOM 3235	OE1	GLN	C	260	-42.109	65.897	35.028	1.00	48.71	C	O
ATOM 3236	NE2	GLN	C	260	-40.179	65.914	36.192	1.00	48.71	C	N
ATOM 3237	C	GLN	C	260	-43.254	63.553	39.360	1.00	29.64	C	C
ATOM 3238	O	GLN	C	260	-43.932	62.867	38.590	1.00	27.17	C	O
ATOM 3239	N	LEU	C	261	-43.794	64.370	40.259	1.00	22.04	C	N
ATOM 3240	CA	LEU	C	261	-45.240	64.507	40.369	1.00	22.35	C	C
ATOM 3241	CB	LEU	C	261	-45.671	64.408	41.836	1.00	30.46	C	C
ATOM 3242	CG	LEU	C	261	-47.180	64.266	42.079	1.00	30.46	C	C
ATOM 3243	CD1	LEU	C	261	-47.407	63.655	43.444	1.00	30.46	C	C
ATOM 3244	CD2	LEU	C	261	-47.875	65.610	41.956	1.00	30.46	C	C
ATOM 3245	C	LEU	C	261	-45.622	65.859	39.788	1.00	26.02	C	C
ATOM 3246	O	LEU	C	261	-45.202	66.894	40.301	1.00	26.69	C	O
ATOM 3247	N	ALA	C	262	-46.421	65.857	38.722	1.00	26.18	C	N
ATOM 3248	CA	ALA	C	262	-46.808	67.106	38.067	1.00	28.58	C	C
ATOM 3249	CB	ALA	C	262	-46.230	67.144	36.671	1.00	52.04	C	C
ATOM 3250	C	ALA	C	262	-48.298	67.381	37.994	1.00	27.88	C	C
ATOM 3251	O	ALA	C	262	-49.082	66.491	37.702	1.00	27.91	C	O
ATOM 3252	N	ILE	C	263	-48.670	68.633	38.256	1.00	26.70	C	N
ATOM 3253	CA	ILE	C	263	-50.059	69.071	38.195	1.00	25.74	C	C
ATOM 3254	CB	ILE	C	263	-50.421	69.914	39.417	1.00	8.96	C	C
ATOM 3255	CG2	ILE	C	263	-51.849	70.406	39.304	1.00	8.96	C	C
ATOM 3256	CG1	ILE	C	263	-50.258	69.074	40.682	1.00	8.96	C	C
ATOM 3257	CD1	ILE	C	263	-50.379	69.873	41.986	1.00	8.96	C	C
ATOM 3258	C	ILE	C	263	-50.232	69.909	36.923	1.00	24.06	C	C
ATOM 3259	O	ILE	C	263	-49.657	70.985	36.799	1.00	23.81	C	O
ATOM 3260	N	PRO	C	264	-51.025	69.409	35.958	1.00	48.84	C	N
ATOM 3261	CD	PRO	C	264	-51.692	68.102	36.038	1.00	53.78	C	C
ATOM 3262	CA	PRO	C	264	-51.312	70.052	34.667	1.00	48.84	C	C
ATOM 3263	CB	PRO	C	264	-52.010	68.952	33.878	1.00	53.78	C	C
ATOM 3264	CG	PRO	C	264	-51.643	67.679	34.616	1.00	53.78	C	C
ATOM 3265	C	PRO	C	264	-52.200	71.278	34.789	1.00	48.84	C	C
ATOM 3266	O	PRO	C	264	-53.278	71.329	34.201	1.00	48.84	C	O
ATOM 3267	N	ARG	C	265	-51.741	72.272	35.538	1.00	56.55	C	N
ATOM 3268	CA	ARG	C	265	-52.513	73.487	35.750	1.00	56.55	C	C
ATOM 3269	CB	ARG	C	265	-53.538	73.223	36.851	1.00	89.25	C	C
ATOM 3270	CG	ARG	C	265	-54.344	74.412	37.269	1.00	89.25	C	C
ATOM 3271	CD	ARG	C	265	-55.452	74.681	36.300	1.00	89.25	C	C
ATOM 3272	NE	ARG	C	265	-56.196	75.864	36.705	1.00	89.25	C	N
ATOM 3273	CZ	ARG	C	265	-57.257	76.332	36.060	1.00	89.25	C	C
ATOM 3274	NH1	ARG	C	265	-57.702	75.708	34.975	1.00	89.25	C	N
ATOM 3275	NH2	ARG	C	265	-57.868	77.428	36.498	1.00	89.25	C	N
ATOM 3276	C	ARG	C	265	-51.561	74.610	36.163	1.00	56.55	C	C
ATOM 3277	O	ARG	C	265	-50.602	74.376	36.908	1.00	56.55	C	O
ATOM 3278	N	GLU	C	266	-51.797	75.821	35.667	1.00	55.50	C	N
ATOM 3279	CA	GLU	C	266	-50.942	76.939	36.045	1.00	55.50	C	C
ATOM 3280	CB	GLU	C	266	-51.046	78.071	35.024	1.00	116.81	C	C
ATOM 3281	CG	GLU	C	266	-50.265	77.794	33.752	1.00	116.81	C	C
ATOM 3282	CD	GLU	C	266	-50.299	78.950	32.775	1.00	116.81	C	C
ATOM 3283	OE1	GLU	C	266	-49.979	80.089	33.184	1.00	116.81	C	O
ATOM 3284	OE2	GLU	C	266	-50.640	78.716	31.596	1.00	116.81	C	O
ATOM 3285	C	GLU	C	266	-51.390	77.401	37.424	1.00	55.50	C	C
ATOM 3286	O	GLU	C	266	-52.567	77.688	37.634	1.00	55.50	C	O
ATOM 3287	N	ASN	C	267	-50.454	77.449	38.367	1.00	70.45	C	N
ATOM 3288	CA	ASN	C	267	-50.770	77.846	39.736	1.00	70.45	C	C
ATOM 3289	CB	ASN	C	267	-51.158	79.323	39.785	1.00	68.67	C	C
ATOM 3290	CG	ASN	C	267	-50.037	80.223	39.305	1.00	68.67	C	C
ATOM 3291	OD1	ASN	C	267	-49.802	80.357	38.105	1.00	68.67	C	O
ATOM 3292	ND2	ASN	C	267	-49.320	80.827	40.245	1.00	68.67	C	N
ATOM 3293	C	ASN	C	267	-51.902	76.965	40.241	1.00	70.45	C	C
ATOM 3294	O	ASN	C	267	-53.019	77.423	40.480	1.00	70.45	C	O
ATOM 3295	N	ALA	C	268	-51.578	75.687	40.395	1.00	66.76	C	N
ATOM 3296	CA	ALA	C	268	-52.510	74.660	40.834	1.00	66.76	C	C
ATOM 3297	CB	ALA	C	268	-51.739	73.450	41.325	1.00	69.50	C	C

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Figure 8-51

ATOM 3298	C	ALA	C 268	-53.529	75.059	41.885	1.00	66.76	C	C
ATOM 3299	O	ALA	C 268	-54.736	75.034	41.626	1.00	66.76	C	O
ATOM 3300	N	GLN	C 269	-53.042	75.412	43.069	1.00	26.38	C	N
ATOM 3301	CA	GLN	C 269	-53.911	75.770	44.195	1.00	24.31	C	C
ATOM 3302	CB	GLN	C 269	-55.268	76.291	43.702	1.00	63.80	C	C
ATOM 3303	CG	GLN	C 269	-55.898	77.322	44.593	1.00	56.45	C	C
ATOM 3304	CD	GLN	C 269	-54.976	78.499	44.825	1.00	56.45	C	C
ATOM 3305	OE1	GLN	C 269	-54.281	78.943	43.908	1.00	56.45	C	O
ATOM 3306	NE2	GLN	C 269	-54.967	79.018	46.052	1.00	56.45	C	N
ATOM 3307	C	GLN	C 269	-54.106	74.465	44.967	1.00	25.00	C	C
ATOM 3308	O	GLN	C 269	-55.196	73.895	44.999	1.00	23.59	C	O
ATOM 3309	N	ILE	C 270	-53.027	73.996	45.580	1.00	51.58	C	N
ATOM 3310	CA	ILE	C 270	-53.039	72.747	46.319	1.00	49.79	C	C
ATOM 3311	CB	ILE	C 270	-51.950	71.826	45.774	1.00	31.67	C	C
ATOM 3312	CG2	ILE	C 270	-52.200	71.564	44.295	1.00	35.23	C	C
ATOM 3313	CG1	ILE	C 270	-50.579	72.481	45.948	1.00	35.23	C	C
ATOM 3314	CD1	ILE	C 270	-49.432	71.573	45.554	1.00	31.67	C	C
ATOM 3315	C	ILE	C 270	-52.869	72.950	47.822	1.00	49.43	C	C
ATOM 3316	O	ILE	C 270	-53.054	74.054	48.312	1.00	47.41	C	O
ATOM 3317	N	SER	C 271	-52.503	71.908	48.562	1.00	40.46	C	N
ATOM 3318	CA	SER	C 271	-52.400	72.072	50.006	1.00	41.12	C	C
ATOM 3319	CB	SER	C 271	-53.138	70.949	50.720	1.00	50.81	C	C
ATOM 3320	OG	SER	C 271	-53.266	71.258	52.101	1.00	45.57	C	O
ATOM 3321	C	SER	C 271	-51.048	72.238	50.670	1.00	38.43	C	C
ATOM 3322	O	SER	C 271	-50.956	72.926	51.680	1.00	39.79	C	O
ATOM 3323	N	LEU	C 272	-50.002	71.614	50.150	1.00	32.05	C	N
ATOM 3324	CA	LEU	C 272	-48.679	71.764	50.769	1.00	30.55	C	C
ATOM 3325	CB	LEU	C 272	-48.211	73.228	50.726	1.00	34.94	C	C
ATOM 3326	CG	LEU	C 272	-47.676	73.781	49.403	1.00	44.09	C	C
ATOM 3327	CD1	LEU	C 272	-46.418	73.042	49.030	1.00	44.09	C	C
ATOM 3328	CD2	LEU	C 272	-48.708	73.634	48.307	1.00	44.09	C	C
ATOM 3329	C	LEU	C 272	-48.606	71.266	52.216	1.00	36.91	C	C
ATOM 3330	O	LEU	C 272	-47.601	71.451	52.892	1.00	35.31	C	O
ATOM 3331	N	ASP	C 273	-49.679	70.650	52.693	1.00	31.41	C	N
ATOM 3332	CA	ASP	C 273	-49.712	70.088	54.041	1.00	26.58	C	C
ATOM 3333	CB	ASP	C 273	-51.168	69.925	54.472	1.00	76.89	C	C
ATOM 3334	CG	ASP	C 273	-51.415	70.409	55.871	1.00	76.89	C	C
ATOM 3335	OD1	ASP	C 273	-51.041	71.561	56.170	1.00	76.89	C	O
ATOM 3336	OD2	ASP	C 273	-51.989	69.645	56.673	1.00	76.89	C	O
ATOM 3337	C	ASP	C 273	-49.003	68.710	53.957	1.00	28.24	C	C
ATOM 3338	O	ASP	C 273	-49.502	67.771	53.322	1.00	31.57	C	O
ATOM 3339	N	GLY	C 274	-47.837	68.605	54.589	1.00	55.23	C	N
ATOM 3340	CA	GLY	C 274	-47.048	67.380	54.555	1.00	55.23	C	C
ATOM 3341	C	GLY	C 274	-47.732	66.032	54.740	1.00	55.23	C	C
ATOM 3342	O	GLY	C 274	-47.212	65.002	54.302	1.00	55.23	C	O
ATOM 3343	N	ASP	C 275	-48.894	66.026	55.384	1.00	23.17	C	N
ATOM 3344	CA	ASP	C 275	-49.636	64.794	55.637	1.00	23.17	C	C
ATOM 3345	CB	ASP	C 275	-50.198	64.821	57.052	1.00	28.48	C	C
ATOM 3346	CG	ASP	C 275	-51.264	65.898	57.228	1.00	28.48	C	C
ATOM 3347	OD1	ASP	C 275	-51.486	66.669	56.262	1.00	28.48	C	O
ATOM 3348	OD2	ASP	C 275	-51.876	65.978	58.319	1.00	28.48	C	O
ATOM 3349	C	ASP	C 275	-50.797	64.562	54.669	1.00	23.17	C	C
ATOM 3350	O	ASP	C 275	-51.616	63.661	54.875	1.00	23.17	C	O
ATOM 3351	N	VAL	C 276	-50.902	65.381	53.634	1.00	31.64	C	N
ATOM 3352	CA	VAL	C 276	-51.985	65.182	52.698	1.00	30.75	C	C
ATOM 3353	CB	VAL	C 276	-53.120	66.212	52.925	1.00	14.33	C	C
ATOM 3354	CG1	VAL	C 276	-52.691	67.593	52.478	1.00	14.33	C	C
ATOM 3355	CG2	VAL	C 276	-54.374	65.765	52.179	1.00	14.33	C	C
ATOM 3356	C	VAL	C 276	-51.466	65.239	51.268	1.00	28.86	C	C
ATOM 3357	O	VAL	C 276	-52.117	64.745	50.341	1.00	29.25	C	O
ATOM 3358	N	THR	C 277	-50.286	65.836	51.098	1.00	25.01	C	N
ATOM 3359	CA	THR	C 277	-49.639	65.929	49.786	1.00	25.10	C	C
ATOM 3360	CB	THR	C 277	-49.522	67.397	49.314	1.00	31.81	C	C
ATOM 3361	OG1	THR	C 277	-50.836	67.932	49.116	1.00	32.54	C	O
ATOM 3362	CG2	THR	C 277	-48.737	67.494	48.001	1.00	33.24	C	C
ATOM 3363	C	THR	C 277	-48.243	65.300	49.895	1.00	23.37	C	C

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Figure 8-52

ATOM 3364	O	THR	C	277	-47.309	65.925	50.395	1.00	25.55	C	O
ATOM 3365	N	PHE	C	278	-48.116	64.054	49.444	1.00	27.21	C	N
ATOM 3366	CA	PHE	C	278	-46.846	63.343	49.512	1.00	21.38	C	C
ATOM 3367	CB	PHE	C	278	-46.816	62.447	50.749	1.00	25.67	C	C
ATOM 3368	CG	PHE	C	278	-48.075	61.656	50.953	1.00	25.67	C	C
ATOM 3369	CD1	PHE	C	278	-48.206	60.373	50.421	1.00	25.67	C	C
ATOM 3370	CD2	PHE	C	278	-49.138	62.204	51.665	1.00	25.67	C	C
ATOM 3371	CE1	PHE	C	278	-49.377	59.643	50.594	1.00	25.67	C	C
ATOM 3372	CE2	PHE	C	278	-50.310	61.489	51.845	1.00	25.67	C	C
ATOM 3373	CZ	PHE	C	278	-50.432	60.197	51.306	1.00	25.67	C	C
ATOM 3374	C	PHE	C	278	-46.597	62.523	48.257	1.00	23.84	C	C
ATOM 3375	O	PHE	C	278	-47.510	62.259	47.482	1.00	29.00	C	O
ATOM 3376	N	PHE	C	279	-45.353	62.104	48.081	1.00	28.14	C	N
ATOM 3377	CA	PHE	C	279	-44.932	61.358	46.904	1.00	27.54	C	C
ATOM 3378	CB	PHE	C	279	-44.323	62.373	45.936	1.00	30.33	C	C
ATOM 3379	CG	PHE	C	279	-43.888	61.811	44.638	1.00	27.40	C	C
ATOM 3380	CD1	PHE	C	279	-44.598	60.801	44.021	1.00	29.88	C	C
ATOM 3381	CD2	PHE	C	279	-42.780	62.341	43.992	1.00	24.80	C	C
ATOM 3382	CE1	PHE	C	279	-44.208	60.323	42.769	1.00	30.17	C	C
ATOM 3383	CE2	PHE	C	279	-42.381	61.872	42.740	1.00	25.54	C	C
ATOM 3384	CZ	PHE	C	279	-43.094	60.864	42.130	1.00	27.95	C	C
ATOM 3385	C	PHE	C	279	-43.908	60.326	47.379	1.00	31.52	C	C
ATOM 3386	O	PHE	C	279	-43.042	60.641	48.194	1.00	29.03	C	O
ATOM 3387	N	GLY	C	280	-44.008	59.091	46.897	1.00	20.72	C	N
ATOM 3388	CA	GLY	C	280	-43.068	58.078	47.349	1.00	21.41	C	C
ATOM 3389	C	GLY	C	280	-42.894	56.868	46.456	1.00	21.29	C	C
ATOM 3390	O	GLY	C	280	-43.711	56.591	45.567	1.00	20.96	C	O
ATOM 3391	N	ALA	C	281	-41.815	56.138	46.704	1.00	17.59	C	N
ATOM 3392	CA	ALA	C	281	-41.502	54.950	45.927	1.00	17.59	C	C
ATOM 3393	CB	ALA	C	281	-40.539	55.309	44.785	1.00	14.44	C	C
ATOM 3394	C	ALA	C	281	-40.893	53.865	46.822	1.00	17.59	C	C
ATOM 3395	O	ALA	C	281	-40.035	54.127	47.677	1.00	17.59	C	O
ATOM 3396	N	LEU	C	282	-41.347	52.638	46.608	1.00	29.74	C	N
ATOM 3397	CA	LEU	C	282	-40.888	51.499	47.381	1.00	27.63	C	C
ATOM 3398	CB	LEU	C	282	-42.059	50.924	48.173	1.00	27.76	C	C
ATOM 3399	CG	LEU	C	282	-41.799	49.884	49.260	1.00	31.76	C	C
ATOM 3400	CD1	LEU	C	282	-43.124	49.432	49.815	1.00	28.19	C	C
ATOM 3401	CD2	LEU	C	282	-41.052	48.696	48.705	1.00	33.66	C	C
ATOM 3402	C	LEU	C	282	-40.381	50.462	46.399	1.00	28.50	C	C
ATOM 3403	O	LEU	C	282	-41.083	50.107	45.450	1.00	27.83	C	O
ATOM 3404	N	LYS	C	283	-39.168	49.968	46.615	1.00	31.45	C	N
ATOM 3405	CA	LYS	C	283	-38.631	48.958	45.712	1.00	32.96	C	C
ATOM 3406	CB	LYS	C	283	-37.107	48.976	45.687	1.00	53.00	C	C
ATOM 3407	CG	LYS	C	283	-36.565	48.022	44.662	1.00	56.67	C	C
ATOM 3408	CD	LYS	C	283	-35.073	48.067	44.566	1.00	51.52	C	C
ATOM 3409	CE	LYS	C	283	-34.617	47.176	43.430	1.00	50.92	C	C
ATOM 3410	NZ	LYS	C	283	-33.136	47.157	43.311	1.00	52.84	C	N
ATOM 3411	C	LYS	C	283	-39.093	47.557	46.076	1.00	35.99	C	C
ATOM 3412	O	LYS	C	283	-38.850	47.064	47.178	1.00	35.06	C	O
ATOM 3413	N	LEU	C	284	-39.768	46.921	45.131	1.00	27.46	C	N
ATOM 3414	CA	LEU	C	284	-40.260	45.572	45.326	1.00	30.81	C	C
ATOM 3415	CB	LEU	C	284	-41.196	45.187	44.184	1.00	26.03	C	C
ATOM 3416	CG	LEU	C	284	-42.458	46.047	44.175	1.00	23.32	C	C
ATOM 3417	CD1	LEU	C	284	-43.392	45.642	43.048	1.00	21.26	C	C
ATOM 3418	CD2	LEU	C	284	-43.131	45.891	45.532	1.00	24.70	C	C
ATOM 3419	C	LEU	C	284	-39.085	44.626	45.371	1.00	33.48	C	C
ATOM 3420	O	LEU	C	284	-38.192	44.705	44.542	1.00	35.27	C	O
ATOM 3421	N	LEU	C	285	-39.085	43.736	46.353	1.00	45.88	C	N
ATOM 3422	CA	LEU	C	285	-38.014	42.765	46.499	1.00	45.88	C	C
ATOM 3423	CB	LEU	C	285	-38.215	41.957	47.774	1.00	66.70	C	C
ATOM 3424	CG	LEU	C	285	-36.914	41.463	48.381	1.00	66.70	C	C
ATOM 3425	CD1	LEU	C	285	-36.154	42.652	48.938	1.00	66.70	C	C
ATOM 3426	CD2	LEU	C	285	-37.208	40.467	49.474	1.00	66.70	C	C
ATOM 3427	C	LEU	C	285	-37.990	41.829	45.291	1.00	45.88	C	C
ATOM 3428	O	LEU	C	285	-36.889	41.455	44.845	1.00	47.34	C	O
ATOM 3429	OXT	LEU	C	285	-39.082	41.469	44.804	1.00	52.56	C	O

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Figure 8-53

ATOM 3430	CB	VAL	K 142	27.439	66.384	22.979	1.00	57.08	K	C
ATOM 3431	CG1	VAL	K 142	28.942	66.371	22.810	1.00	57.08	K	C
ATOM 3432	CG2	VAL	K 142	26.800	67.332	21.968	1.00	57.08	K	C
ATOM 3433	C	VAL	K 142	25.419	64.963	23.255	1.00	75.91	K	C
ATOM 3434	O	VAL	K 142	25.126	65.344	24.383	1.00	75.91	K	O
ATOM 3435	N	VAL	K 142	27.028	64.487	21.386	1.00	75.91	K	N
ATOM 3436	CA	VAL	K 142	26.875	64.953	22.798	1.00	75.91	K	C
ATOM 3437	N	THR	K 143	24.513	64.533	22.385	1.00	95.44	K	N
ATOM 3438	CA	THR	K 143	23.100	64.542	22.722	1.00	95.44	K	C
ATOM 3439	CB	THR	K 143	22.286	65.231	21.627	1.00	94.83	K	C
ATOM 3440	OG1	THR	K 143	22.615	64.651	20.362	1.00	94.83	K	O
ATOM 3441	CG2	THR	K 143	22.588	66.715	21.593	1.00	94.83	K	C
ATOM 3442	C	THR	K 143	22.476	63.182	22.991	1.00	95.44	K	C
ATOM 3443	O	THR	K 143	21.342	63.114	23.460	1.00	95.44	K	O
ATOM 3444	N	GLN	K 144	23.188	62.101	22.686	1.00	55.18	K	N
ATOM 3445	CA	GLN	K 144	22.652	60.761	22.934	1.00	45.80	K	C
ATOM 3446	CB	GLN	K 144	22.541	60.540	24.448	1.00	86.97	K	C
ATOM 3447	CG	GLN	K 144	22.716	59.103	24.897	1.00	86.97	K	C
ATOM 3448	CD	GLN	K 144	22.790	58.957	26.413	1.00	86.97	K	C
ATOM 3449	OE1	GLN	K 144	23.161	57.901	26.935	1.00	34.18	K	O
ATOM 3450	NE2	GLN	K 144	22.433	60.017	27.127	1.00	34.18	K	N
ATOM 3451	C	GLN	K 144	21.276	60.540	22.268	1.00	42.99	K	C
ATOM 3452	O	GLN	K 144	20.242	60.667	22.921	1.00	38.07	K	O
ATOM 3453	N	ASP	K 145	21.264	60.210	20.976	1.00	39.29	K	N
ATOM 3454	CA	ASP	K 145	20.007	59.980	20.255	1.00	39.00	K	C
ATOM 3455	CB	ASP	K 145	20.255	59.713	18.762	1.00	65.25	K	C
ATOM 3456	CG	ASP	K 145	21.106	60.771	18.101	1.00	83.16	K	C
ATOM 3457	OD1	ASP	K 145	20.876	61.967	18.356	1.00	83.16	K	O
ATOM 3458	OD2	ASP	K 145	21.999	60.402	17.307	1.00	83.16	K	O
ATOM 3459	C	ASP	K 145	19.221	58.784	20.809	1.00	37.04	K	C
ATOM 3460	O	ASP	K 145	19.785	57.886	21.448	1.00	36.01	K	O
ATOM 3461	N	CYS	K 146	17.916	58.777	20.543	1.00	16.05	K	N
ATOM 3462	CA	CYS	K 146	17.044	57.690	20.971	1.00	15.62	K	C
ATOM 3463	CB	CYS	K 146	16.872	57.711	22.485	1.00	19.66	K	C
ATOM 3464	SG	CYS	K 146	16.313	59.276	23.118	1.00	30.98	K	S
ATOM 3465	C	CYS	K 146	15.688	57.797	20.291	1.00	16.99	K	C
ATOM 3466	O	CYS	K 146	15.226	58.888	19.982	1.00	14.91	K	O
ATOM 3467	N	LEU	K 147	15.057	56.659	20.047	1.00	23.00	K	N
ATOM 3468	CA	LEU	K 147	13.759	56.641	19.394	1.00	23.00	K	C
ATOM 3469	CB	LEU	K 147	13.927	56.279	17.919	1.00	6.26	K	C
ATOM 3470	CG	LEU	K 147	12.637	56.070	17.132	1.00	6.26	K	C
ATOM 3471	CD1	LEU	K 147	12.948	56.302	15.667	1.00	10.79	K	C
ATOM 3472	CD2	LEU	K 147	12.045	54.668	17.385	1.00	10.79	K	C
ATOM 3473	C	LEU	K 147	12.889	55.618	20.103	1.00	23.00	K	C
ATOM 3474	O	LEU	K 147	13.376	54.555	20.492	1.00	24.16	K	O
ATOM 3475	N	GLN	K 148	11.604	55.927	20.261	1.00	25.58	K	N
ATOM 3476	CA	GLN	K 148	10.701	55.031	20.968	1.00	25.60	K	C
ATOM 3477	CB	GLN	K 148	10.428	55.591	22.366	1.00	12.05	K	C
ATOM 3478	CG	GLN	K 148	9.588	54.705	23.275	1.00	19.51	K	C
ATOM 3479	CD	GLN	K 148	9.587	55.213	24.708	1.00	19.51	K	C
ATOM 3480	OE1	GLN	K 148	10.387	54.776	25.543	1.00	19.51	K	O
ATOM 3481	NE2	GLN	K 148	8.704	56.160	24.994	1.00	19.51	K	N
ATOM 3482	C	GLN	K 148	9.396	54.824	20.243	1.00	26.72	K	C
ATOM 3483	O	GLN	K 148	8.803	55.772	19.740	1.00	27.23	K	O
ATOM 3484	N	LEU	K 149	8.953	53.574	20.203	1.00	24.83	K	N
ATOM 3485	CA	LEU	K 149	7.706	53.211	19.551	1.00	23.56	K	C
ATOM 3486	CB	LEU	K 149	7.963	52.092	18.540	1.00	22.96	K	C
ATOM 3487	CG	LEU	K 149	8.364	52.387	17.087	1.00	22.96	K	C
ATOM 3488	CD1	LEU	K 149	8.799	53.826	16.887	1.00	22.96	K	C
ATOM 3489	CD2	LEU	K 149	9.474	51.424	16.707	1.00	11.85	K	C
ATOM 3490	C	LEU	K 149	6.711	52.727	20.603	1.00	25.21	K	C
ATOM 3491	O	LEU	K 149	7.107	52.133	21.608	1.00	25.60	K	O
ATOM 3492	N	ILE	K 150	5.426	52.996	20.386	1.00	21.19	K	N
ATOM 3493	CA	ILE	K 150	4.394	52.534	21.311	1.00	20.06	K	C
ATOM 3494	CB	ILE	K 150	3.813	53.688	22.134	1.00	23.07	K	C
ATOM 3495	CG2	ILE	K 150	4.926	54.376	22.905	1.00	23.07	K	C

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Figure 8-54

ATOM 3496	CG1	ILE	K	150	3.115	54.686	21.213	1.00	27.19	K	C
ATOM 3497	CD1	ILE	K	150	2.639	55.923	21.926	1.00	27.19	K	C
ATOM 3498	C	ILE	K	150	3.290	51.861	20.502	1.00	24.16	K	C
ATOM 3499	O	ILE	K	150	3.025	52.239	19.362	1.00	25.21	K	O
ATOM 3500	N	ALA	K	151	2.659	50.851	21.083	1.00	42.17	K	N
ATOM 3501	CA	ALA	K	151	1.611	50.118	20.388	1.00	42.17	K	C
ATOM 3502	CB	ALA	K	151	1.021	49.060	21.319	1.00	3.01	K	C
ATOM 3503	C	ALA	K	151	0.504	51.010	19.838	1.00	42.17	K	C
ATOM 3504	O	ALA	K	151	0.098	51.993	20.465	1.00	42.17	K	O
ATOM 3505	N	ASP	K	152	0.020	50.660	18.652	1.00	48.27	K	N
ATOM 3506	CA	ASP	K	152	-1.059	51.406	18.009	1.00	48.27	K	C
ATOM 3507	CB	ASP	K	152	-0.803	51.508	16.504	1.00	58.77	K	C
ATOM 3508	CG	ASP	K	152	-1.904	52.246	15.774	1.00	58.77	K	C
ATOM 3509	OD1	ASP	K	152	-1.887	52.239	14.526	1.00	58.77	K	O
ATOM 3510	OD2	ASP	K	152	-2.779	52.836	16.446	1.00	58.77	K	O
ATOM 3511	C	ASP	K	152	-2.374	50.669	18.261	1.00	48.27	K	C
ATOM 3512	O	ASP	K	152	-2.689	49.699	17.579	1.00	48.27	K	O
ATOM 3513	N	SER	K	153	-3.134	51.137	19.245	1.00	56.95	K	N
ATOM 3514	CA	SER	K	153	-4.401	50.514	19.596	1.00	56.95	K	C
ATOM 3515	CB	SER	K	153	-4.909	51.095	20.913	1.00	78.79	K	C
ATOM 3516	OG	SER	K	153	-4.976	52.507	20.846	1.00	78.79	K	O
ATOM 3517	C	SER	K	153	-5.466	50.686	18.523	1.00	56.95	K	C
ATOM 3518	O	SER	K	153	-6.580	50.201	18.672	1.00	56.95	K	O
ATOM 3519	N	GLU	K	154	-5.115	51.362	17.437	1.00	46.02	K	N
ATOM 3520	CA	GLU	K	154	-6.053	51.621	16.353	1.00	46.02	K	C
ATOM 3521	CB	GLU	K	154	-5.787	53.003	15.764	1.00	100.23	K	C
ATOM 3522	CG	GLU	K	154	-7.037	53.752	15.405	1.00	100.23	K	C
ATOM 3523	CD	GLU	K	154	-7.834	54.110	16.632	1.00	100.23	K	C
ATOM 3524	OE1	GLU	K	154	-7.349	54.947	17.423	1.00	100.23	K	O
ATOM 3525	OE2	GLU	K	154	-8.934	53.547	16.813	1.00	100.23	K	O
ATOM 3526	C	GLU	K	154	-5.959	50.596	15.236	1.00	46.02	K	C
ATOM 3527	O	GLU	K	154	-6.906	50.414	14.474	1.00	46.02	K	O
ATOM 3528	N	THR	K	155	-4.815	49.929	15.144	1.00	53.77	K	N
ATOM 3529	CA	THR	K	155	-4.577	48.948	14.092	1.00	53.77	K	C
ATOM 3530	CB	THR	K	155	-3.268	49.255	13.376	1.00	32.40	K	C
ATOM 3531	OG1	THR	K	155	-3.321	50.579	12.836	1.00	32.40	K	O
ATOM 3532	CG2	THR	K	155	-3.019	48.241	12.267	1.00	32.40	K	C
ATOM 3533	C	THR	K	155	-4.493	47.513	14.578	1.00	53.77	K	C
ATOM 3534	O	THR	K	155	-4.014	47.248	15.678	1.00	53.77	K	O
ATOM 3535	N	PRO	K	156	-4.952	46.560	13.754	1.00	50.16	K	N
ATOM 3536	CD	PRO	K	156	-5.648	46.714	12.465	1.00	44.41	K	C
ATOM 3537	CA	PRO	K	156	-4.901	45.149	14.146	1.00	50.16	K	C
ATOM 3538	CB	PRO	K	156	-5.796	44.479	13.111	1.00	44.41	K	C
ATOM 3539	CG	PRO	K	156	-5.562	45.322	11.897	1.00	44.41	K	C
ATOM 3540	C	PRO	K	156	-3.468	44.643	14.081	1.00	50.16	K	C
ATOM 3541	O	PRO	K	156	-2.663	45.139	13.296	1.00	50.16	K	O
ATOM 3542	N	THR	K	157	-3.152	43.656	14.907	1.00	42.75	K	N
ATOM 3543	CA	THR	K	157	-1.807	43.101	14.925	1.00	42.75	K	C
ATOM 3544	CB	THR	K	157	-1.680	42.000	15.982	1.00	42.44	K	C
ATOM 3545	OG1	THR	K	157	-2.442	40.854	15.586	1.00	42.44	K	O
ATOM 3546	CG2	THR	K	157	-2.203	42.504	17.313	1.00	42.44	K	C
ATOM 3547	C	THR	K	157	-1.474	42.519	13.566	1.00	42.75	K	C
ATOM 3548	O	THR	K	157	-2.341	42.007	12.873	1.00	42.75	K	O
ATOM 3549	N	ILE	K	158	-0.208	42.594	13.191	1.00	45.86	K	N
ATOM 3550	CA	ILE	K	158	0.251	42.084	11.902	1.00	45.86	K	C
ATOM 3551	CB	ILE	K	158	1.471	42.864	11.430	1.00	26.27	K	C
ATOM 3552	CG2	ILE	K	158	1.867	42.416	10.054	1.00	26.27	K	C
ATOM 3553	CG1	ILE	K	158	1.159	44.355	11.436	1.00	26.27	K	C
ATOM 3554	CD1	ILE	K	158	2.343	45.212	11.089	1.00	26.27	K	C
ATOM 3555	C	ILE	K	158	0.641	40.607	11.928	1.00	45.86	K	C
ATOM 3556	O	ILE	K	158	1.423	40.179	12.779	1.00	45.86	K	O
ATOM 3557	N	GLN	K	159	0.107	39.835	10.985	1.00	37.97	K	N
ATOM 3558	CA	GLN	K	159	0.411	38.413	10.893	1.00	37.97	K	C
ATOM 3559	CB	GLN	K	159	-0.865	37.623	10.649	1.00	35.06	K	C
ATOM 3560	CG	GLN	K	159	-1.843	37.771	11.776	1.00	35.06	K	C
ATOM 3561	CD	GLN	K	159	-1.249	37.333	13.089	1.00	35.06	K	C

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Figure 8-55

ATOM 3562	OE1	GLN	K	159	-1.596	37.858	14.139	1.00	35.06	K	O
ATOM 3563	NE2	GLN	K	159	-0.348	36.359	13.041	1.00	35.06	K	N
ATOM 3564	C	GLN	K	159	1.379	38.213	9.747	1.00	37.97	K	C
ATOM 3565	O	GLN	K	159	1.168	38.734	8.658	1.00	37.97	K	O
ATOM 3566	N	LYS	K	160	2.446	37.460	9.981	1.00	55.23	K	N
ATOM 3567	CA	LYS	K	160	3.434	37.257	8.933	1.00	55.23	K	C
ATOM 3568	CB	LYS	K	160	4.155	38.580	8.670	1.00	100.28	K	C
ATOM 3569	CG	LYS	K	160	5.134	38.567	7.524	1.00	73.66	K	C
ATOM 3570	CD	LYS	K	160	5.683	39.968	7.287	1.00	73.66	K	C
ATOM 3571	CE	LYS	K	160	6.593	40.022	6.064	1.00	73.66	K	C
ATOM 3572	NZ	LYS	K	160	7.088	41.405	5.787	1.00	73.66	K	N
ATOM 3573	C	LYS	K	160	4.439	36.170	9.297	1.00	55.23	K	C
ATOM 3574	O	LYS	K	160	5.165	36.284	10.278	1.00	55.23	K	O
ATOM 3575	N	GLY	K	161	4.467	35.110	8.501	1.00	61.34	K	N
ATOM 3576	CA	GLY	K	161	5.396	34.027	8.753	1.00	61.34	K	C
ATOM 3577	C	GLY	K	161	5.200	33.326	10.084	1.00	61.34	K	C
ATOM 3578	O	GLY	K	161	6.167	33.051	10.791	1.00	61.34	K	O
ATOM 3579	N	SER	K	162	3.950	33.035	10.427	1.00	56.09	K	N
ATOM 3580	CA	SER	K	162	3.633	32.351	11.675	1.00	56.09	K	C
ATOM 3581	CB	SER	K	162	4.383	31.024	11.749	1.00	79.60	K	C
ATOM 3582	OG	SER	K	162	4.003	30.294	12.900	1.00	79.60	K	O
ATOM 3583	C	SER	K	162	3.944	33.205	12.909	1.00	56.09	K	C
ATOM 3584	O	SER	K	162	3.660	32.809	14.042	1.00	56.09	K	O
ATOM 3585	N	TYR	K	163	4.539	34.370	12.686	1.00	33.14	K	N
ATOM 3586	CA	TYR	K	163	4.834	35.290	13.778	1.00	33.14	K	C
ATOM 3587	CB	TYR	K	163	6.159	36.027	13.565	1.00	62.33	K	C
ATOM 3588	CG	TYR	K	163	7.415	35.265	13.896	1.00	62.33	K	C
ATOM 3589	CD1	TYR	K	163	7.381	34.098	14.653	1.00	62.33	K	C
ATOM 3590	CE1	TYR	K	163	8.553	33.422	14.981	1.00	62.33	K	C
ATOM 3591	CD2	TYR	K	163	8.653	35.741	13.475	1.00	62.33	K	C
ATOM 3592	CE2	TYR	K	163	9.829	35.081	13.795	1.00	62.33	K	C
ATOM 3593	CZ	TYR	K	163	9.775	33.920	14.549	1.00	62.33	K	C
ATOM 3594	OH	TYR	K	163	10.944	33.260	14.862	1.00	62.33	K	O
ATOM 3595	C	TYR	K	163	3.732	36.346	13.809	1.00	33.14	K	C
ATOM 3596	O	TYR	K	163	2.871	36.399	12.924	1.00	33.14	K	O
ATOM 3597	N	THR	K	164	3.781	37.194	14.828	1.00	36.71	K	N
ATOM 3598	CA	THR	K	164	2.818	38.273	14.972	1.00	36.71	K	C
ATOM 3599	CB	THR	K	164	1.683	37.882	15.957	1.00	46.35	K	C
ATOM 3600	OG1	THR	K	164	0.904	39.038	16.272	1.00	46.35	K	O
ATOM 3601	CG2	THR	K	164	2.246	37.307	17.216	1.00	46.35	K	C
ATOM 3602	C	THR	K	164	3.564	39.523	15.449	1.00	36.71	K	C
ATOM 3603	O	THR	K	164	4.295	39.491	16.437	1.00	36.71	K	O
ATOM 3604	N	PHE	K	165	3.391	40.616	14.716	1.00	44.32	K	N
ATOM 3605	CA	PHE	K	165	4.056	41.876	15.036	1.00	44.32	K	C
ATOM 3606	CB	PHE	K	165	4.820	42.384	13.822	1.00	23.24	K	C
ATOM 3607	CG	PHE	K	165	5.761	41.374	13.248	1.00	23.24	K	C
ATOM 3608	CD1	PHE	K	165	5.281	40.312	12.478	1.00	23.24	K	C
ATOM 3609	CD2	PHE	K	165	7.127	41.441	13.530	1.00	23.24	K	C
ATOM 3610	CE1	PHE	K	165	6.145	39.333	12.002	1.00	23.24	K	C
ATOM 3611	CE2	PHE	K	165	7.998	40.472	13.062	1.00	23.24	K	C
ATOM 3612	CZ	PHE	K	165	7.508	39.414	12.297	1.00	23.24	K	C
ATOM 3613	C	PHE	K	165	3.075	42.946	15.480	1.00	44.32	K	C
ATOM 3614	O	PHE	K	165	1.966	43.038	14.957	1.00	44.32	K	O
ATOM 3615	N	VAL	K	166	3.478	43.768	16.439	1.00	38.43	K	N
ATOM 3616	CA	VAL	K	166	2.572	44.792	16.907	1.00	38.43	K	C
ATOM 3617	CB	VAL	K	166	2.807	45.159	18.418	1.00	28.12	K	C
ATOM 3618	CG1	VAL	K	166	3.843	44.235	19.035	1.00	28.12	K	C
ATOM 3619	CG2	VAL	K	166	3.208	46.615	18.561	1.00	28.12	K	C
ATOM 3620	C	VAL	K	166	2.725	46.018	16.033	1.00	38.43	K	C
ATOM 3621	O	VAL	K	166	3.820	46.320	15.555	1.00	38.43	K	O
ATOM 3622	N	PRO	K	167	1.608	46.720	15.783	1.00	31.42	K	N
ATOM 3623	CD	PRO	K	167	0.247	46.301	16.149	1.00	37.53	K	C
ATOM 3624	CA	PRO	K	167	1.565	47.932	14.969	1.00	31.42	K	C
ATOM 3625	CB	PRO	K	167	0.070	48.169	14.781	1.00	37.53	K	C
ATOM 3626	CG	PRO	K	167	-0.540	46.826	14.996	1.00	37.53	K	C
ATOM 3627	C	PRO	K	167	2.190	49.035	15.803	1.00	31.42	K	C

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Figure 8-56

ATOM 3628	O	PRO	K 167	1.687	49.346	16.887	1.00	31.42	K	O
ATOM 3629	N	TRP	K 168	3.279	49.621	15.320	1.00	21.10	K	N
ATOM 3630	CA	TRP	K 168	3.925	50.687	16.075	1.00	22.33	K	C
ATOM 3631	CB	TRP	K 168	5.449	50.581	15.992	1.00	31.76	K	C
ATOM 3632	CG	TRP	K 168	5.980	49.326	16.574	1.00	26.02	K	C
ATOM 3633	CD2	TRP	K 168	5.842	48.877	17.933	1.00	26.59	K	C
ATOM 3634	CE2	TRP	K 168	6.476	47.617	18.019	1.00	25.98	K	C
ATOM 3635	CE3	TRP	K 168	5.245	49.416	19.081	1.00	27.72	K	C
ATOM 3636	CD1	TRP	K 168	6.667	48.359	15.918	1.00	28.87	K	C
ATOM 3637	NE1	TRP	K 168	6.968	47.326	16.775	1.00	31.85	K	N
ATOM 3638	CZ2	TRP	K 168	6.534	46.880	19.211	1.00	25.74	K	C
ATOM 3639	CZ3	TRP	K 168	5.300	48.686	20.270	1.00	31.48	K	C
ATOM 3640	CH2	TRP	K 168	5.941	47.430	20.323	1.00	29.69	K	C
ATOM 3641	C	TRP	K 168	3.505	52.081	15.640	1.00	22.64	K	C
ATOM 3642	O	TRP	K 168	3.193	52.336	14.473	1.00	24.30	K	O
ATOM 3643	N	LEU	K 169	3.501	52.975	16.618	1.00	32.65	K	N
ATOM 3644	CA	LEU	K 169	3.168	54.366	16.417	1.00	33.12	K	C
ATOM 3645	CB	LEU	K 169	1.904	54.686	17.193	1.00	67.01	K	C
ATOM 3646	CG	LEU	K 169	0.845	55.455	16.419	1.00	67.01	K	C
ATOM 3647	CD1	LEU	K 169	-0.491	55.285	17.107	1.00	67.01	K	C
ATOM 3648	CD2	LEU	K 169	1.245	56.924	16.323	1.00	67.01	K	C
ATOM 3649	C	LEU	K 169	4.378	55.078	17.019	1.00	33.75	K	C
ATOM 3650	O	LEU	K 169	4.833	54.720	18.113	1.00	32.10	K	O
ATOM 3651	N	LEU	K 170	4.925	56.059	16.314	1.00	40.75	K	N
ATOM 3652	CA	LEU	K 170	6.101	56.750	16.828	1.00	40.75	K	C
ATOM 3653	CB	LEU	K 170	6.713	57.659	15.762	1.00	16.35	K	C
ATOM 3654	CG	LEU	K 170	7.876	58.480	16.323	1.00	16.35	K	C
ATOM 3655	CD1	LEU	K 170	9.063	57.573	16.601	1.00	16.35	K	C
ATOM 3656	CD2	LEU	K 170	8.266	59.552	15.352	1.00	16.35	K	C
ATOM 3657	C	LEU	K 170	5.839	57.577	18.078	1.00	40.75	K	C
ATOM 3658	O	LEU	K 170	5.141	58.586	18.031	1.00	41.50	K	O
ATOM 3659	N	SER	K 171	6.403	57.143	19.198	1.00	33.47	K	N
ATOM 3660	CA	SER	K 171	6.258	57.873	20.449	1.00	33.48	K	C
ATOM 3661	CB	SER	K 171	6.837	57.070	21.616	1.00	52.82	K	C
ATOM 3662	OG	SER	K 171	7.031	57.896	22.753	1.00	52.82	K	O
ATOM 3663	C	SER	K 171	7.044	59.165	20.277	1.00	31.87	K	C
ATOM 3664	O	SER	K 171	6.525	60.254	20.456	1.00	31.57	K	O
ATOM 3665	N	PHE	K 172	8.308	59.028	19.919	1.00	44.77	K	N
ATOM 3666	CA	PHE	K 172	9.145	60.189	19.708	1.00	41.29	K	C
ATOM 3667	CB	PHE	K 172	9.405	60.909	21.033	1.00	52.00	K	C
ATOM 3668	CG	PHE	K 172	10.476	60.276	21.857	1.00	30.66	K	C
ATOM 3669	CD1	PHE	K 172	11.820	60.494	21.563	1.00	30.66	K	C
ATOM 3670	CD2	PHE	K 172	10.149	59.413	22.896	1.00	30.66	K	C
ATOM 3671	CE1	PHE	K 172	12.827	59.856	22.289	1.00	30.66	K	C
ATOM 3672	CE2	PHE	K 172	11.151	58.767	23.630	1.00	30.66	K	C
ATOM 3673	CZ	PHE	K 172	12.493	58.991	23.322	1.00	30.66	K	C
ATOM 3674	C	PHE	K 172	10.459	59.733	19.091	1.00	42.83	K	C
ATOM 3675	O	PHE	K 172	10.885	58.589	19.274	1.00	43.62	K	O
ATOM 3676	N	LYS	K 173	11.087	60.640	18.352	1.00	41.70	K	N
ATOM 3677	CA	LYS	K 173	12.363	60.384	17.700	1.00	40.74	K	C
ATOM 3678	CB	LYS	K 173	12.187	60.359	16.188	1.00	17.03	K	C
ATOM 3679	CG	LYS	K 173	13.472	60.349	15.393	1.00	36.03	K	C
ATOM 3680	CD	LYS	K 173	13.160	60.454	13.912	1.00	36.03	K	C
ATOM 3681	CE	LYS	K 173	14.420	60.447	13.076	1.00	36.03	K	C
ATOM 3682	NZ	LYS	K 173	15.339	61.561	13.440	1.00	36.03	K	N
ATOM 3683	C	LYS	K 173	13.242	61.547	18.094	1.00	42.52	K	C
ATOM 3684	O	LYS	K 173	12.835	62.695	17.989	1.00	44.01	K	O
ATOM 3685	N	ARG	K 174	14.440	61.250	18.562	1.00	37.73	K	N
ATOM 3686	CA	ARG	K 174	15.352	62.293	18.994	1.00	37.73	K	C
ATOM 3687	CB	ARG	K 174	15.428	62.313	20.515	1.00	22.94	K	C
ATOM 3688	CG	ARG	K 174	16.277	63.416	21.073	1.00	22.94	K	C
ATOM 3689	CD	ARG	K 174	16.617	63.167	22.528	1.00	22.94	K	C
ATOM 3690	NE	ARG	K 174	17.375	64.274	23.096	1.00	22.94	K	N
ATOM 3691	CZ	ARG	K 174	18.329	64.136	24.012	1.00	22.94	K	C
ATOM 3692	NH1	ARG	K 174	18.640	62.932	24.463	1.00	22.94	K	N
ATOM 3693	NH2	ARG	K 174	18.980	65.199	24.477	1.00	22.94	K	N

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Figure 8-57

ATOM 3694	C	ARG	K	174	16.731	62.030	18.431	1.00	37.73	K	C
ATOM 3695	O	ARG	K	174	17.393	61.065	18.823	1.00	37.73	K	O
ATOM 3696	N	GLY	K	175	17.162	62.876	17.500	1.00	31.96	K	N
ATOM 3697	CA	GLY	K	175	18.479	62.699	16.921	1.00	31.96	K	C
ATOM 3698	C	GLY	K	175	18.498	62.128	15.523	1.00	31.96	K	C
ATOM 3699	O	GLY	K	175	17.451	61.808	14.953	1.00	31.96	K	O
ATOM 3700	N	SER	K	176	19.711	61.995	14.989	1.00	55.29	K	N
ATOM 3701	CA	SER	K	176	19.950	61.491	13.641	1.00	55.29	K	C
ATOM 3702	CB	SER	K	176	21.288	62.026	13.129	1.00	87.11	K	C
ATOM 3703	OG	SER	K	176	22.293	61.891	14.119	1.00	87.11	K	O
ATOM 3704	C	SER	K	176	19.926	59.974	13.527	1.00	55.29	K	C
ATOM 3705	O	SER	K	176	19.195	59.434	12.704	1.00	55.29	K	O
ATOM 3706	N	ALA	K	177	20.731	59.288	14.334	1.00	62.89	K	N
ATOM 3707	CA	ALA	K	177	20.765	57.826	14.305	1.00	62.89	K	C
ATOM 3708	CB	ALA	K	177	21.785	57.301	15.276	1.00	12.23	K	C
ATOM 3709	C	ALA	K	177	19.402	57.358	14.726	1.00	62.89	K	C
ATOM 3710	O	ALA	K	177	18.707	58.059	15.458	1.00	62.89	K	O
ATOM 3711	N	LEU	K	178	19.003	56.177	14.282	1.00	28.39	K	N
ATOM 3712	CA	LEU	K	178	17.686	55.679	14.675	1.00	28.39	K	C
ATOM 3713	CB	LEU	K	178	17.580	55.637	16.203	1.00	54.87	K	C
ATOM 3714	CG	LEU	K	178	17.929	54.375	16.987	1.00	35.94	K	C
ATOM 3715	CD1	LEU	K	178	19.023	53.580	16.314	1.00	35.94	K	C
ATOM 3716	CD2	LEU	K	178	18.335	54.802	18.386	1.00	35.94	K	C
ATOM 3717	C	LEU	K	178	16.495	56.487	14.138	1.00	28.39	K	C
ATOM 3718	O	LEU	K	178	16.328	57.666	14.448	1.00	28.39	K	O
ATOM 3719	N	GLU	K	179	15.676	55.836	13.324	1.00	36.54	K	N
ATOM 3720	CA	GLU	K	179	14.465	56.435	12.787	1.00	36.54	K	C
ATOM 3721	CB	GLU	K	179	14.752	57.302	11.554	1.00	87.16	K	C
ATOM 3722	CG	GLU	K	179	15.489	56.629	10.432	1.00	36.36	K	C
ATOM 3723	CD	GLU	K	179	15.899	57.613	9.340	1.00	36.36	K	C
ATOM 3724	OE1	GLU	K	179	16.658	58.563	9.640	1.00	36.36	K	O
ATOM 3725	OE2	GLU	K	179	15.466	57.433	8.180	1.00	36.36	K	O
ATOM 3726	C	GLU	K	179	13.576	55.248	12.466	1.00	36.54	K	C
ATOM 3727	O	GLU	K	179	14.065	54.127	12.362	1.00	36.54	K	O
ATOM 3728	N	GLU	K	180	12.274	55.471	12.353	1.00	31.67	K	N
ATOM 3729	CA	GLU	K	180	11.352	54.372	12.082	1.00	31.67	K	C
ATOM 3730	CB	GLU	K	180	9.963	54.709	12.624	1.00	38.67	K	C
ATOM 3731	CG	GLU	K	180	8.877	53.737	12.230	1.00	38.67	K	C
ATOM 3732	CD	GLU	K	180	7.551	54.091	12.866	1.00	38.67	K	C
ATOM 3733	OE1	GLU	K	180	7.245	55.299	12.967	1.00	48.46	K	O
ATOM 3734	OE2	GLU	K	180	6.806	53.170	13.261	1.00	48.46	K	O
ATOM 3735	C	GLU	K	180	11.266	54.036	10.606	1.00	31.67	K	C
ATOM 3736	O	GLU	K	180	10.947	54.889	9.793	1.00	31.67	K	O
ATOM 3737	N	LYS	K	181	11.552	52.785	10.268	1.00	69.23	K	N
ATOM 3738	CA	LYS	K	181	11.513	52.342	8.883	1.00	69.23	K	C
ATOM 3739	CB	LYS	K	181	12.565	51.265	8.643	1.00	71.22	K	C
ATOM 3740	CG	LYS	K	181	12.662	50.779	7.206	1.00	71.22	K	C
ATOM 3741	CD	LYS	K	181	13.270	51.823	6.296	1.00	71.22	K	C
ATOM 3742	CE	LYS	K	181	13.605	51.218	4.943	1.00	71.22	K	C
ATOM 3743	NZ	LYS	K	181	14.424	52.135	4.110	1.00	71.22	K	N
ATOM 3744	C	LYS	K	181	10.145	51.792	8.541	1.00	69.23	K	C
ATOM 3745	O	LYS	K	181	9.181	52.542	8.415	1.00	69.23	K	O
ATOM 3746	N	GLU	K	182	10.049	50.476	8.403	1.00	24.36	K	N
ATOM 3747	CA	GLU	K	182	8.779	49.868	8.045	1.00	24.36	K	C
ATOM 3748	CB	GLU	K	182	8.961	48.935	6.854	1.00	78.91	K	C
ATOM 3749	CG	GLU	K	182	9.712	49.583	5.714	1.00	78.91	K	C
ATOM 3750	CD	GLU	K	182	9.891	48.661	4.539	1.00	78.91	K	C
ATOM 3751	OE1	GLU	K	182	8.896	48.414	3.829	1.00	78.91	K	O
ATOM 3752	OE2	GLU	K	182	11.025	48.177	4.333	1.00	78.91	K	O
ATOM 3753	C	GLU	K	182	8.271	49.105	9.243	1.00	24.36	K	C
ATOM 3754	O	GLU	K	182	8.254	47.879	9.262	1.00	24.36	K	O
ATOM 3755	N	ASN	K	183	7.851	49.853	10.249	1.00	31.32	K	N
ATOM 3756	CA	ASN	K	183	7.343	49.284	11.484	1.00	31.32	K	C
ATOM 3757	CB	ASN	K	183	6.256	48.251	11.225	1.00	40.96	K	C
ATOM 3758	CG	ASN	K	183	5.458	47.943	12.476	1.00	40.96	K	C
ATOM 3759	OD1	ASN	K	183	4.824	48.833	13.056	1.00	40.96	K	O

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Figure 8-58

ATOM 3760	ND2	ASN	K	183	5.490	46.687	12.909	1.00	40.96	K	N
ATOM 3761	C	ASN	K	183	8.475	48.649	12.262	1.00	31.32	K	C
ATOM 3762	O	ASN	K	183	8.263	47.782	13.105	1.00	31.32	K	O
ATOM 3763	N	LYS	K	184	9.689	49.083	11.959	1.00	31.14	K	N
ATOM 3764	CA	LYS	K	184	10.856	48.593	12.664	1.00	31.14	K	C
ATOM 3765	CB	LYS	K	184	11.512	47.439	11.898	1.00	48.54	K	C
ATOM 3766	CG	LYS	K	184	11.153	47.357	10.435	1.00	48.54	K	C
ATOM 3767	CD	LYS	K	184	11.613	46.035	9.860	1.00	48.54	K	C
ATOM 3768	CE	LYS	K	184	11.306	45.935	8.381	1.00	48.54	K	C
ATOM 3769	NZ	LYS	K	184	11.855	44.669	7.812	1.00	48.54	K	N
ATOM 3770	C	LYS	K	184	11.824	49.752	12.873	1.00	31.14	K	C
ATOM 3771	O	LYS	K	184	11.720	50.776	12.205	1.00	31.14	K	O
ATOM 3772	N	ILE	K	185	12.738	49.605	13.825	1.00	29.07	K	N
ATOM 3773	CA	ILE	K	185	13.713	50.652	14.100	1.00	27.56	K	C
ATOM 3774	CB	ILE	K	185	14.207	50.578	15.551	1.00	19.04	K	C
ATOM 3775	CG2	ILE	K	185	15.264	51.640	15.792	1.00	19.04	K	C
ATOM 3776	CG1	ILE	K	185	13.030	50.763	16.502	1.00	19.04	K	C
ATOM 3777	CD1	ILE	K	185	13.371	50.544	17.957	1.00	19.04	K	C
ATOM 3778	C	ILE	K	185	14.913	50.506	13.171	1.00	28.02	K	C
ATOM 3779	O	ILE	K	185	15.556	49.453	13.134	1.00	31.21	K	O
ATOM 3780	N	LEU	K	186	15.209	51.568	12.428	1.00	21.94	K	N
ATOM 3781	CA	LEU	K	186	16.329	51.568	11.495	1.00	21.14	K	C
ATOM 3782	CB	LEU	K	186	15.916	52.226	10.183	1.00	33.34	K	C
ATOM 3783	CG	LEU	K	186	17.057	52.461	9.194	1.00	33.34	K	C
ATOM 3784	CD1	LEU	K	186	17.773	51.140	8.918	1.00	33.34	K	C
ATOM 3785	CD2	LEU	K	186	16.500	53.069	7.920	1.00	33.34	K	C
ATOM 3786	C	LEU	K	186	17.555	52.292	12.048	1.00	18.28	K	C
ATOM 3787	O	LEU	K	186	17.473	53.464	12.412	1.00	25.21	K	O
ATOM 3788	N	VAL	K	187	18.689	51.595	12.103	1.00	25.88	K	N
ATOM 3789	CA	VAL	K	187	19.919	52.182	12.621	1.00	27.38	K	C
ATOM 3790	CB	VAL	K	187	20.924	51.103	13.057	1.00	17.67	K	C
ATOM 3791	CG1	VAL	K	187	22.234	51.766	13.489	1.00	15.72	K	C
ATOM 3792	CG2	VAL	K	187	20.349	50.273	14.183	1.00	24.73	K	C
ATOM 3793	C	VAL	K	187	20.568	53.018	11.536	1.00	29.59	K	C
ATOM 3794	O	VAL	K	187	20.847	52.520	10.449	1.00	31.91	K	O
ATOM 3795	N	LYS	K	188	20.819	54.285	11.834	1.00	30.95	K	N
ATOM 3796	CA	LYS	K	188	21.428	55.168	10.851	1.00	32.84	K	C
ATOM 3797	CB	LYS	K	188	20.644	56.489	10.776	1.00	36.12	K	C
ATOM 3798	CG	LYS	K	188	19.460	56.454	9.818	1.00	40.10	K	C
ATOM 3799	CD	LYS	K	188	19.953	56.248	8.388	1.00	45.39	K	C
ATOM 3800	CE	LYS	K	188	18.818	55.969	7.409	1.00	50.35	K	C
ATOM 3801	NZ	LYS	K	188	17.894	57.122	7.216	1.00	35.52	K	N
ATOM 3802	C	LYS	K	188	22.904	55.444	11.111	1.00	30.65	K	C
ATOM 3803	O	LYS	K	188	23.626	55.868	10.211	1.00	33.23	K	O
ATOM 3804	N	GLU	K	189	23.350	55.210	12.339	1.00	38.36	K	N
ATOM 3805	CA	GLU	K	189	24.745	55.429	12.697	1.00	41.05	K	C
ATOM 3806	CB	GLU	K	189	24.899	56.691	13.534	1.00	63.46	K	C
ATOM 3807	CG	GLU	K	189	24.329	57.928	12.906	1.00	63.46	K	C
ATOM 3808	CD	GLU	K	189	24.488	59.137	13.801	1.00	63.46	K	C
ATOM 3809	OE1	GLU	K	189	23.981	60.219	13.429	1.00	63.46	K	O
ATOM 3810	OE2	GLU	K	189	25.121	59.001	14.875	1.00	63.46	K	O
ATOM 3811	C	GLU	K	189	25.235	54.245	13.511	1.00	38.57	K	C
ATOM 3812	O	GLU	K	189	24.764	54.001	14.616	1.00	39.13	K	O
ATOM 3813	N	THR	K	190	26.195	53.511	12.979	1.00	43.57	K	N
ATOM 3814	CA	THR	K	190	26.693	52.360	13.694	1.00	45.14	K	C
ATOM 3815	CB	THR	K	190	27.731	51.621	12.847	1.00	27.05	K	C
ATOM 3816	OG1	THR	K	190	28.857	51.290	13.659	1.00	27.05	K	O
ATOM 3817	CG2	THR	K	190	28.158	52.480	11.669	1.00	27.05	K	C
ATOM 3818	C	THR	K	190	27.271	52.776	15.041	1.00	43.62	K	C
ATOM 3819	O	THR	K	190	27.902	53.821	15.151	1.00	44.27	K	O
ATOM 3820	N	GLY	K	191	27.021	51.957	16.062	1.00	20.96	K	N
ATOM 3821	CA	GLY	K	191	27.507	52.232	17.404	1.00	22.41	K	C
ATOM 3822	C	GLY	K	191	26.894	51.296	18.440	1.00	22.61	K	C
ATOM 3823	O	GLY	K	191	26.355	50.248	18.089	1.00	25.32	K	O
ATOM 3824	N	TYR	K	192	26.985	51.659	19.720	1.00	37.92	K	N
ATOM 3825	CA	TYR	K	192	26.401	50.838	20.781	1.00	37.46	K	C

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Figure 8-59

ATOM 3826	CB	TYR	K	192	27.303	50.813	22.015	1.00	42.01	K	C
ATOM 3827	CG	TYR	K	192	28.546	49.997	21.807	1.00	42.01	K	C
ATOM 3828	CD1	TYR	K	192	29.630	50.517	21.103	1.00	42.01	K	C
ATOM 3829	CE1	TYR	K	192	30.763	49.755	20.867	1.00	42.01	K	C
ATOM 3830	CD2	TYR	K	192	28.625	48.685	22.274	1.00	42.01	K	C
ATOM 3831	CE2	TYR	K	192	29.753	47.909	22.041	1.00	42.01	K	C
ATOM 3832	CZ	TYR	K	192	30.816	48.451	21.335	1.00	42.01	K	C
ATOM 3833	OH	TYR	K	192	31.922	47.684	21.071	1.00	42.01	K	O
ATOM 3834	C	TYR	K	192	25.026	51.359	21.168	1.00	35.70	K	C
ATOM 3835	O	TYR	K	192	24.821	52.562	21.326	1.00	36.75	K	O
ATOM 3836	N	PHE	K	193	24.075	50.450	21.316	1.00	26.70	K	N
ATOM 3837	CA	PHE	K	193	22.724	50.855	21.668	1.00	26.70	K	C
ATOM 3838	CB	PHE	K	193	21.798	50.772	20.453	1.00	21.80	K	C
ATOM 3839	CG	PHE	K	193	22.174	51.691	19.319	1.00	21.80	K	C
ATOM 3840	CD1	PHE	K	193	23.252	51.397	18.487	1.00	21.80	K	C
ATOM 3841	CD2	PHE	K	193	21.422	52.837	19.047	1.00	21.80	K	C
ATOM 3842	CE1	PHE	K	193	23.568	52.231	17.396	1.00	21.80	K	C
ATOM 3843	CE2	PHE	K	193	21.734	53.671	17.958	1.00	21.80	K	C
ATOM 3844	CZ	PHE	K	193	22.801	53.366	17.139	1.00	21.80	K	C
ATOM 3845	C	PHE	K	193	22.093	50.042	22.794	1.00	26.70	K	C
ATOM 3846	O	PHE	K	193	22.286	48.824	22.902	1.00	26.70	K	O
ATOM 3847	N	PHE	K	194	21.343	50.743	23.638	1.00	14.48	K	N
ATOM 3848	CA	PHE	K	194	20.600	50.132	24.734	1.00	14.96	K	C
ATOM 3849	CB	PHE	K	194	20.458	51.117	25.889	1.00	18.65	K	C
ATOM 3850	CG	PHE	K	194	19.566	50.630	26.981	1.00	18.65	K	C
ATOM 3851	CD1	PHE	K	194	19.936	49.554	27.772	1.00	18.65	K	C
ATOM 3852	CD2	PHE	K	194	18.332	51.231	27.209	1.00	18.65	K	C
ATOM 3853	CE1	PHE	K	194	19.085	49.078	28.777	1.00	18.65	K	C
ATOM 3854	CE2	PHE	K	194	17.473	50.765	28.209	1.00	18.65	K	C
ATOM 3855	CZ	PHE	K	194	17.853	49.689	28.992	1.00	18.65	K	C
ATOM 3856	C	PHE	K	194	19.248	49.896	24.080	1.00	15.35	K	C
ATOM 3857	O	PHE	K	194	18.608	50.840	23.622	1.00	17.47	K	O
ATOM 3858	N	ILE	K	195	18.825	48.642	24.004	1.00	25.67	K	N
ATOM 3859	CA	ILE	K	195	17.566	48.308	23.351	1.00	22.88	K	C
ATOM 3860	CB	ILE	K	195	17.798	47.308	22.212	1.00	24.97	K	C
ATOM 3861	CG2	ILE	K	195	16.502	47.056	21.463	1.00	24.97	K	C
ATOM 3862	CG1	ILE	K	195	18.864	47.851	21.264	1.00	24.97	K	C
ATOM 3863	CD1	ILE	K	195	19.257	46.882	20.183	1.00	24.97	K	C
ATOM 3864	C	ILE	K	195	16.613	47.681	24.340	1.00	21.85	K	C
ATOM 3865	O	ILE	K	195	17.004	46.785	25.080	1.00	20.47	K	O
ATOM 3866	N	TYR	K	196	15.365	48.144	24.347	1.00	18.67	K	N
ATOM 3867	CA	TYR	K	196	14.356	47.610	25.265	1.00	23.20	K	C
ATOM 3868	CB	TYR	K	196	14.175	48.541	26.460	1.00	20.86	K	C
ATOM 3869	CG	TYR	K	196	13.790	49.945	26.060	1.00	15.75	K	C
ATOM 3870	CD1	TYR	K	196	14.747	50.847	25.591	1.00	19.06	K	C
ATOM 3871	CE1	TYR	K	196	14.384	52.136	25.184	1.00	17.42	K	C
ATOM 3872	CD2	TYR	K	196	12.461	50.365	26.113	1.00	19.20	K	C
ATOM 3873	CE2	TYR	K	196	12.091	51.643	25.708	1.00	22.37	K	C
ATOM 3874	CZ	TYR	K	196	13.054	52.521	25.247	1.00	18.48	K	C
ATOM 3875	OH	TYR	K	196	12.692	53.781	24.846	1.00	18.71	K	O
ATOM 3876	C	TYR	K	196	13.002	47.404	24.599	1.00	24.45	K	C
ATOM 3877	O	TYR	K	196	12.615	48.138	23.678	1.00	21.66	K	O
ATOM 3878	N	GLY	K	197	12.282	46.401	25.083	1.00	27.93	K	N
ATOM 3879	CA	GLY	K	197	10.974	46.106	24.536	1.00	26.75	K	C
ATOM 3880	C	GLY	K	197	10.079	45.410	25.545	1.00	27.50	K	C
ATOM 3881	O	GLY	K	197	10.508	44.513	26.276	1.00	25.84	K	O
ATOM 3882	N	GLN	K	198	8.824	45.829	25.595	1.00	29.22	K	N
ATOM 3883	CA	GLN	K	198	7.870	45.235	26.509	1.00	31.91	K	C
ATOM 3884	CB	GLN	K	198	7.699	46.106	27.750	1.00	17.12	K	C
ATOM 3885	CG	GLN	K	198	6.519	45.692	28.609	1.00	20.22	K	C
ATOM 3886	CD	GLN	K	198	6.320	46.585	29.821	1.00	23.48	K	C
ATOM 3887	OE1	GLN	K	198	7.202	46.699	30.669	1.00	22.14	K	O
ATOM 3888	NE2	GLN	K	198	5.154	47.219	29.912	1.00	20.73	K	N
ATOM 3889	C	GLN	K	198	6.521	45.073	25.842	1.00	31.86	K	C
ATOM 3890	O	GLN	K	198	6.085	45.941	25.087	1.00	32.69	K	O
ATOM 3891	N	VAL	K	199	5.863	43.955	26.116	1.00	19.49	K	N

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Figure 8-60

ATOM 3892	CA	VAL	K	199	4.534	43.712	25.571	1.00	22.64	K	C
ATOM 3893	CB	VAL	K	199	4.578	42.876	24.239	1.00	22.87	K	C
ATOM 3894	CG1	VAL	K	199	5.916	42.208	24.085	1.00	21.63	K	C
ATOM 3895	CG2	VAL	K	199	3.447	41.850	24.210	1.00	24.34	K	C
ATOM 3896	C	VAL	K	199	3.669	43.025	26.623	1.00	24.77	K	C
ATOM 3897	O	VAL	K	199	4.150	42.202	27.395	1.00	23.49	K	O
ATOM 3898	N	LEU	K	200	2.397	43.405	26.673	1.00	36.47	K	N
ATOM 3899	CA	LEU	K	200	1.469	42.828	27.629	1.00	35.53	K	C
ATOM 3900	CB	LEU	K	200	0.473	43.890	28.095	1.00	8.92	K	C
ATOM 3901	CG	LEU	K	200	-0.802	43.415	28.807	1.00	8.92	K	C
ATOM 3902	CD1	LEU	K	200	-0.469	42.351	29.856	1.00	8.92	K	C
ATOM 3903	CD2	LEU	K	200	-1.490	44.607	29.433	1.00	8.92	K	C
ATOM 3904	C	LEU	K	200	0.734	41.652	26.997	1.00	36.51	K	C
ATOM 3905	O	LEU	K	200	-0.097	41.823	26.109	1.00	37.93	K	O
ATOM 3906	N	TYR	K	201	1.055	40.452	27.460	1.00	37.93	K	N
ATOM 3907	CA	TYR	K	201	0.439	39.248	26.943	1.00	38.19	K	C
ATOM 3908	CB	TYR	K	201	1.379	38.068	27.146	1.00	65.63	K	C
ATOM 3909	CG	TYR	K	201	2.620	38.241	26.327	1.00	65.63	K	C
ATOM 3910	CD1	TYR	K	201	2.552	38.230	24.938	1.00	65.63	K	C
ATOM 3911	CE1	TYR	K	201	3.666	38.498	24.160	1.00	65.63	K	C
ATOM 3912	CD2	TYR	K	201	3.846	38.518	26.925	1.00	65.63	K	C
ATOM 3913	CE2	TYR	K	201	4.976	38.792	26.152	1.00	65.63	K	C
ATOM 3914	CZ	TYR	K	201	4.873	38.781	24.772	1.00	65.63	K	C
ATOM 3915	OH	TYR	K	201	5.967	39.069	23.998	1.00	65.63	K	O
ATOM 3916	C	TYR	K	201	-0.893	39.007	27.609	1.00	37.63	K	C
ATOM 3917	O	TYR	K	201	-1.000	38.988	28.834	1.00	37.09	K	O
ATOM 3918	N	THR	K	202	-1.913	38.838	26.779	1.00	21.20	K	N
ATOM 3919	CA	THR	K	202	-3.265	38.616	27.246	1.00	26.45	K	C
ATOM 3920	CB	THR	K	202	-4.141	39.796	26.818	1.00	69.03	K	C
ATOM 3921	OG1	THR	K	202	-5.439	39.649	27.385	1.00	69.03	K	O
ATOM 3922	CG2	THR	K	202	-4.255	39.864	25.318	1.00	69.03	K	C
ATOM 3923	C	THR	K	202	-3.781	37.289	26.665	1.00	25.09	K	C
ATOM 3924	O	THR	K	202	-4.968	37.001	26.653	1.00	24.22	K	O
ATOM 3925	N	ASP	K	203	-2.847	36.479	26.189	1.00	23.25	K	N
ATOM 3926	CA	ASP	K	203	-3.137	35.175	25.608	1.00	23.25	K	C
ATOM 3927	CB	ASP	K	203	-2.127	34.908	24.485	1.00	70.91	K	C
ATOM 3928	CG	ASP	K	203	-2.320	33.562	23.821	1.00	70.91	K	C
ATOM 3929	OD1	ASP	K	203	-1.909	33.414	22.650	1.00	70.91	K	O
ATOM 3930	OD2	ASP	K	203	-2.867	32.645	24.465	1.00	70.91	K	O
ATOM 3931	C	ASP	K	203	-3.021	34.127	26.723	1.00	23.25	K	C
ATOM 3932	O	ASP	K	203	-2.251	34.303	27.659	1.00	23.25	K	O
ATOM 3933	N	LYS	K	204	-3.783	33.042	26.644	1.00	42.24	K	N
ATOM 3934	CA	LYS	K	204	-3.719	32.034	27.696	1.00	42.24	K	C
ATOM 3935	CB	LYS	K	204	-5.130	31.684	28.184	1.00	49.06	K	C
ATOM 3936	CG	LYS	K	204	-6.020	31.027	27.149	1.00	49.06	K	C
ATOM 3937	CD	LYS	K	204	-7.415	30.761	27.714	1.00	49.06	K	C
ATOM 3938	CE	LYS	K	204	-8.142	32.060	28.079	1.00	49.06	K	C
ATOM 3939	NZ	LYS	K	204	-9.508	31.824	28.632	1.00	49.06	K	N
ATOM 3940	C	LYS	K	204	-2.952	30.752	27.367	1.00	42.24	K	C
ATOM 3941	O	LYS	K	204	-3.148	29.733	28.030	1.00	42.24	K	O
ATOM 3942	N	THR	K	205	-2.076	30.796	26.362	1.00	35.59	K	N
ATOM 3943	CA	THR	K	205	-1.272	29.619	26.010	1.00	35.59	K	C
ATOM 3944	CB	THR	K	205	-0.541	29.808	24.668	1.00	50.37	K	C
ATOM 3945	OG1	THR	K	205	0.515	30.760	24.828	1.00	50.37	K	O
ATOM 3946	CG2	THR	K	205	-1.497	30.313	23.613	1.00	50.37	K	C
ATOM 3947	C	THR	K	205	-0.232	29.428	27.125	1.00	35.59	K	C
ATOM 3948	O	THR	K	205	0.163	30.402	27.764	1.00	35.59	K	O
ATOM 3949	N	TYR	K	206	0.217	28.193	27.355	1.00	30.94	K	N
ATOM 3950	CA	TYR	K	206	1.172	27.909	28.441	1.00	30.94	K	C
ATOM 3951	CB	TYR	K	206	1.884	26.561	28.224	1.00	65.03	K	C
ATOM 3952	CG	TYR	K	206	2.954	26.560	27.156	1.00	65.03	K	C
ATOM 3953	CD1	TYR	K	206	4.194	25.962	27.387	1.00	65.03	K	C
ATOM 3954	CE1	TYR	K	206	5.180	25.944	26.402	1.00	65.03	K	C
ATOM 3955	CD2	TYR	K	206	2.724	27.140	25.912	1.00	65.03	K	C
ATOM 3956	CE2	TYR	K	206	3.701	27.129	24.920	1.00	65.03	K	C
ATOM 3957	CZ	TYR	K	206	4.925	26.530	25.171	1.00	65.03	K	C

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Figure 8-61

ATOM 3958	OH	TYR K 206	5.887	26.526	24.188	1.00	65.03	K	O
ATOM 3959	C	TYR K 206	2.222	29.002	28.682	1.00	30.94	K	C
ATOM 3960	O	TYR K 206	2.526	29.340	29.833	1.00	30.94	K	O
ATOM 3961	N	ALA K 207	2.762	29.562	27.599	1.00	41.33	K	N
ATOM 3962	CA	ALA K 207	3.777	30.594	27.728	1.00	41.33	K	C
ATOM 3963	CB	ALA K 207	5.126	29.947	27.934	1.00	11.32	K	C
ATOM 3964	C	ALA K 207	3.813	31.511	26.521	1.00	41.33	K	C
ATOM 3965	O	ALA K 207	3.627	31.066	25.394	1.00	41.33	K	O
ATOM 3966	N	MET K 208	4.053	32.795	26.773	1.00	28.14	K	N
ATOM 3967	CA	MET K 208	4.128	33.808	25.721	1.00	28.14	K	C
ATOM 3968	CB	MET K 208	2.944	34.768	25.818	1.00	33.92	K	C
ATOM 3969	CG	MET K 208	1.611	34.142	25.465	1.00	33.92	K	C
ATOM 3970	SD	MET K 208	1.583	33.609	23.738	1.00	33.92	K	S
ATOM 3971	CE	MET K 208	1.178	35.151	22.930	1.00	33.92	K	C
ATOM 3972	C	MET K 208	5.423	34.593	25.865	1.00	28.14	K	C
ATOM 3973	O	MET K 208	6.104	34.500	26.888	1.00	28.14	K	O
ATOM 3974	N	GLY K 209	5.770	35.363	24.843	1.00	27.85	K	N
ATOM 3975	CA	GLY K 209	6.986	36.148	24.913	1.00	27.85	K	C
ATOM 3976	C	GLY K 209	7.331	36.756	23.576	1.00	27.85	K	C
ATOM 3977	O	GLY K 209	6.666	36.479	22.577	1.00	27.85	K	O
ATOM 3978	N	HIS K 210	8.361	37.596	23.542	1.00	22.92	K	N
ATOM 3979	CA	HIS K 210	8.756	38.208	22.285	1.00	22.92	K	C
ATOM 3980	CB	HIS K 210	8.262	39.657	22.198	1.00	30.61	K	C
ATOM 3981	CG	HIS K 210	8.664	40.512	23.357	1.00	30.61	K	C
ATOM 3982	CD2	HIS K 210	9.450	41.609	23.423	1.00	30.61	K	C
ATOM 3983	ND1	HIS K 210	8.194	40.299	24.634	1.00	30.61	K	N
ATOM 3984	CE1	HIS K 210	8.670	41.232	25.437	1.00	30.61	K	C
ATOM 3985	NE2	HIS K 210	9.435	42.041	24.728	1.00	30.61	K	N
ATOM 3986	C	HIS K 210	10.243	38.173	22.075	1.00	22.92	K	C
ATOM 3987	O	HIS K 210	11.009	37.905	22.996	1.00	22.92	K	O
ATOM 3988	N	LEU K 211	10.635	38.457	20.842	1.00	30.61	K	N
ATOM 3989	CA	LEU K 211	12.027	38.475	20.454	1.00	32.58	K	C
ATOM 3990	CB	LEU K 211	12.254	37.500	19.309	1.00	15.25	K	C
ATOM 3991	CG	LEU K 211	11.539	36.153	19.417	1.00	14.51	K	C
ATOM 3992	CD1	LEU K 211	11.621	35.482	18.068	1.00	14.51	K	C
ATOM 3993	CD2	LEU K 211	12.154	35.276	20.514	1.00	14.51	K	C
ATOM 3994	C	LEU K 211	12.364	39.861	19.960	1.00	33.66	K	C
ATOM 3995	O	LEU K 211	11.630	40.427	19.157	1.00	36.65	K	O
ATOM 3996	N	ILE K 212	13.449	40.429	20.464	1.00	28.33	K	N
ATOM 3997	CA	ILE K 212	13.891	41.721	19.979	1.00	26.04	K	C
ATOM 3998	CB	ILE K 212	14.468	42.583	21.097	1.00	21.12	K	C
ATOM 3999	CG2	ILE K 212	15.196	43.778	20.502	1.00	27.93	K	C
ATOM 4000	CG1	ILE K 212	13.327	43.054	22.004	1.00	27.93	K	C
ATOM 4001	CD1	ILE K 212	13.763	43.879	23.194	1.00	27.93	K	C
ATOM 4002	C	ILE K 212	14.975	41.254	19.039	1.00	23.99	K	C
ATOM 4003	O	ILE K 212	16.030	40.812	19.473	1.00	24.99	K	O
ATOM 4004	N	GLN K 213	14.686	41.316	17.747	1.00	40.01	K	N
ATOM 4005	CA	GLN K 213	15.617	40.841	16.742	1.00	41.19	K	C
ATOM 4006	CB	GLN K 213	14.875	39.924	15.767	1.00	27.18	K	C
ATOM 4007	CG	GLN K 213	14.029	38.869	16.436	1.00	33.61	K	C
ATOM 4008	CD	GLN K 213	13.325	37.990	15.434	1.00	33.61	K	C
ATOM 4009	OE1	GLN K 213	12.652	38.476	14.517	1.00	33.61	K	O
ATOM 4010	NE2	GLN K 213	13.471	36.684	15.600	1.00	33.61	K	N
ATOM 4011	C	GLN K 213	16.356	41.917	15.953	1.00	39.16	K	C
ATOM 4012	O	GLN K 213	15.901	43.052	15.816	1.00	37.88	K	O
ATOM 4013	N	ARG K 214	17.503	41.518	15.421	1.00	32.80	K	N
ATOM 4014	CA	ARG K 214	18.346	42.376	14.613	1.00	33.37	K	C
ATOM 4015	CB	ARG K 214	19.746	42.378	15.197	1.00	42.17	K	C
ATOM 4016	CG	ARG K 214	20.735	43.131	14.374	1.00	34.15	K	C
ATOM 4017	CD	ARG K 214	22.129	42.829	14.840	1.00	34.15	K	C
ATOM 4018	NE	ARG K 214	23.110	43.633	14.130	1.00	34.15	K	N
ATOM 4019	CZ	ARG K 214	24.392	43.326	14.071	1.00	34.15	K	C
ATOM 4020	NH1	ARG K 214	24.825	42.229	14.688	1.00	34.15	K	N
ATOM 4021	NH2	ARG K 214	25.226	44.105	13.394	1.00	34.15	K	N
ATOM 4022	C	ARG K 214	18.400	41.862	13.162	1.00	32.02	K	C
ATOM 4023	O	ARG K 214	18.772	40.711	12.911	1.00	33.04	K	O

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Figure 8-62

ATOM 4024	N	LYS	K	215	18.019	42.710	12.214	1.00	31.58	K	N
ATOM 4025	CA	LYS	K	215	18.045	42.353	10.800	1.00	36.23	K	C
ATOM 4026	CB	LYS	K	215	16.846	42.970	10.091	1.00	165.06	K	C
ATOM 4027	CG	LYS	K	215	16.416	42.264	8.829	1.00	92.38	K	C
ATOM 4028	CD	LYS	K	215	15.296	43.051	8.157	1.00	92.38	K	C
ATOM 4029	CE	LYS	K	215	14.576	42.250	7.079	1.00	92.38	K	C
ATOM 4030	NZ	LYS	K	215	13.747	41.155	7.663	1.00	92.38	K	N
ATOM 4031	C	LYS	K	215	19.340	42.986	10.292	1.00	34.47	K	C
ATOM 4032	O	LYS	K	215	19.404	44.209	10.107	1.00	33.57	K	O
ATOM 4033	N	LYS	K	216	20.372	42.163	10.083	1.00	27.60	K	N
ATOM 4034	CA	LYS	K	216	21.690	42.643	9.639	1.00	27.60	K	C
ATOM 4035	CB	LYS	K	216	22.759	41.590	9.943	1.00	69.59	K	C
ATOM 4036	CG	LYS	K	216	22.916	41.298	11.416	1.00	53.26	K	C
ATOM 4037	CD	LYS	K	216	24.053	40.333	11.690	1.00	53.26	K	C
ATOM 4038	CE	LYS	K	216	23.733	38.934	11.205	1.00	53.26	K	C
ATOM 4039	NZ	LYS	K	216	24.799	37.971	11.609	1.00	53.26	K	N
ATOM 4040	C	LYS	K	216	21.773	43.002	8.171	1.00	27.60	K	C
ATOM 4041	O	LYS	K	216	21.162	42.338	7.351	1.00	27.60	K	O
ATOM 4042	N	VAL	K	217	22.529	44.049	7.845	1.00	38.65	K	N
ATOM 4043	CA	VAL	K	217	22.714	44.453	6.447	1.00	38.65	K	C
ATOM 4044	CB	VAL	K	217	23.087	45.940	6.293	1.00	33.10	K	C
ATOM 4045	CG1	VAL	K	217	21.896	46.784	6.544	1.00	33.10	K	C
ATOM 4046	CG2	VAL	K	217	24.207	46.310	7.253	1.00	33.10	K	C
ATOM 4047	C	VAL	K	217	23.849	43.645	5.843	1.00	38.65	K	C
ATOM 4048	O	VAL	K	217	23.876	43.403	4.647	1.00	38.65	K	O
ATOM 4049	N	HIS	K	218	24.792	43.240	6.681	1.00	39.67	K	N
ATOM 4050	CA	HIS	K	218	25.912	42.456	6.222	1.00	39.67	K	C
ATOM 4051	CB	HIS	K	218	27.224	43.046	6.724	1.00	55.61	K	C
ATOM 4052	CG	HIS	K	218	27.457	44.449	6.272	1.00	55.61	K	C
ATOM 4053	CD2	HIS	K	218	28.141	45.468	6.842	1.00	55.61	K	C
ATOM 4054	ND1	HIS	K	218	26.978	44.926	5.070	1.00	55.61	K	N
ATOM 4055	CE1	HIS	K	218	27.358	46.182	4.919	1.00	55.61	K	C
ATOM 4056	NE2	HIS	K	218	28.064	46.535	5.979	1.00	55.61	K	N
ATOM 4057	C	HIS	K	218	25.774	41.034	6.708	1.00	39.67	K	C
ATOM 4058	O	HIS	K	218	25.594	40.764	7.904	1.00	39.67	K	O
ATOM 4059	N	VAL	K	219	25.819	40.131	5.743	1.00	24.29	K	N
ATOM 4060	CA	VAL	K	219	25.740	38.714	6.013	1.00	24.29	K	C
ATOM 4061	CB	VAL	K	219	24.443	38.127	5.484	1.00	30.75	K	C
ATOM 4062	CG1	VAL	K	219	23.299	38.558	6.364	1.00	30.75	K	C
ATOM 4063	CG2	VAL	K	219	24.218	38.602	4.057	1.00	30.75	K	C
ATOM 4064	C	VAL	K	219	26.913	38.065	5.305	1.00	24.29	K	C
ATOM 4065	O	VAL	K	219	27.145	38.303	4.116	1.00	24.29	K	O
ATOM 4066	N	PHE	K	220	27.657	37.264	6.057	1.00	23.19	K	N
ATOM 4067	CA	PHE	K	220	28.802	36.561	5.528	1.00	23.19	K	C
ATOM 4068	CB	PHE	K	220	30.078	37.104	6.172	1.00	32.19	K	C
ATOM 4069	CG	PHE	K	220	30.338	38.550	5.854	1.00	32.19	K	C
ATOM 4070	CD1	PHE	K	220	29.793	39.556	6.633	1.00	32.19	K	C
ATOM 4071	CD2	PHE	K	220	31.091	38.909	4.742	1.00	32.19	K	C
ATOM 4072	CE1	PHE	K	220	29.997	40.900	6.309	1.00	32.19	K	C
ATOM 4073	CE2	PHE	K	220	31.292	40.250	4.414	1.00	32.19	K	C
ATOM 4074	CZ	PHE	K	220	30.746	41.242	5.198	1.00	32.19	K	C
ATOM 4075	C	PHE	K	220	28.708	35.043	5.712	1.00	23.19	K	C
ATOM 4076	O	PHE	K	220	28.468	34.551	6.815	1.00	23.19	K	O
ATOM 4077	N	GLY	K	221	28.876	34.322	4.603	1.00	38.88	K	N
ATOM 4078	CA	GLY	K	221	28.844	32.870	4.600	1.00	38.88	K	C
ATOM 4079	C	GLY	K	221	27.780	32.200	5.441	1.00	38.88	K	C
ATOM 4080	O	GLY	K	221	26.607	32.166	5.075	1.00	38.88	K	O
ATOM 4081	N	ASP	K	222	28.204	31.649	6.572	1.00	40.39	K	N
ATOM 4082	CA	ASP	K	222	27.321	30.952	7.493	1.00	40.39	K	C
ATOM 4083	CB	ASP	K	222	28.135	30.369	8.647	1.00	91.19	K	C
ATOM 4084	CG	ASP	K	222	28.429	28.910	8.467	1.00	91.19	K	C
ATOM 4085	OD1	ASP	K	222	29.079	28.324	9.356	1.00	91.19	K	O
ATOM 4086	OD2	ASP	K	222	28.006	28.350	7.437	1.00	91.19	K	O
ATOM 4087	C	ASP	K	222	26.185	31.761	8.094	1.00	40.39	K	C
ATOM 4088	O	ASP	K	222	25.019	31.485	7.835	1.00	40.39	K	O
ATOM 4089	N	GLU	K	223	26.534	32.762	8.897	1.00	45.33	K	N

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Figure 8-63

ATOM 4090	CA	GLU	K	223	25.553	33.561	9.626	1.00	45.33	K	C
ATOM 4091	CB	GLU	K	223	26.188	34.868	10.111	1.00	46.75	K	C
ATOM 4092	CG	GLU	K	223	26.897	35.716	9.080	1.00	46.75	K	C
ATOM 4093	CD	GLU	K	223	27.383	37.033	9.686	1.00	46.75	K	C
ATOM 4094	OE1	GLU	K	223	28.149	36.997	10.675	1.00	46.75	K	O
ATOM 4095	OE2	GLU	K	223	26.995	38.109	9.186	1.00	46.75	K	O
ATOM 4096	C	GLU	K	223	24.188	33.850	9.021	1.00	45.33	K	C
ATOM 4097	O	GLU	K	223	24.037	33.968	7.808	1.00	45.33	K	O
ATOM 4098	N	LEU	K	224	23.194	33.941	9.906	1.00	32.61	K	N
ATOM 4099	CA	LEU	K	224	21.806	34.235	9.538	1.00	32.61	K	C
ATOM 4100	CB	LEU	K	224	20.845	33.612	10.543	1.00	63.79	K	C
ATOM 4101	CG	LEU	K	224	21.093	32.183	11.000	1.00	63.79	K	C
ATOM 4102	CD1	LEU	K	224	22.415	32.082	11.756	1.00	63.79	K	C
ATOM 4103	CD2	LEU	K	224	19.940	31.774	11.891	1.00	63.79	K	C
ATOM 4104	C	LEU	K	224	21.608	35.753	9.555	1.00	32.61	K	C
ATOM 4105	O	LEU	K	224	22.117	36.444	10.436	1.00	32.61	K	O
ATOM 4106	N	SER	K	225	20.851	36.271	8.598	1.00	37.26	K	N
ATOM 4107	CA	SER	K	225	20.643	37.709	8.510	1.00	37.26	K	C
ATOM 4108	CB	SER	K	225	19.964	38.059	7.181	1.00	63.89	K	C
ATOM 4109	OG	SER	K	225	18.750	37.348	7.030	1.00	63.89	K	O
ATOM 4110	C	SER	K	225	19.833	38.254	9.684	1.00	37.26	K	C
ATOM 4111	O	SER	K	225	20.008	39.404	10.093	1.00	37.26	K	O
ATOM 4112	N	LEU	K	226	18.950	37.423	10.227	1.00	37.60	K	N
ATOM 4113	CA	LEU	K	226	18.122	37.835	11.350	1.00	36.37	K	C
ATOM 4114	CB	LEU	K	226	16.641	37.560	11.067	1.00	17.92	K	C
ATOM 4115	CG	LEU	K	226	15.653	38.099	12.122	1.00	17.92	K	C
ATOM 4116	CD1	LEU	K	226	15.608	39.638	12.058	1.00	17.92	K	C
ATOM 4117	CD2	LEU	K	226	14.264	37.530	11.874	1.00	17.92	K	C
ATOM 4118	C	LEU	K	226	18.522	37.086	12.604	1.00	31.84	K	C
ATOM 4119	O	LEU	K	226	18.426	35.869	12.660	1.00	32.61	K	O
ATOM 4120	N	VAL	K	227	18.969	37.811	13.615	1.00	38.53	K	N
ATOM 4121	CA	VAL	K	227	19.347	37.173	14.860	1.00	33.53	K	C
ATOM 4122	CB	VAL	K	227	20.847	37.287	15.105	1.00	44.49	K	C
ATOM 4123	CG1	VAL	K	227	21.591	36.638	13.961	1.00	44.49	K	C
ATOM 4124	CG2	VAL	K	227	21.244	38.740	15.245	1.00	44.49	K	C
ATOM 4125	C	VAL	K	227	18.606	37.842	16.009	1.00	29.36	K	C
ATOM 4126	O	VAL	K	227	18.391	39.054	16.001	1.00	20.27	K	O
ATOM 4127	N	THR	K	228	18.195	37.067	17.000	1.00	27.92	K	N
ATOM 4128	CA	THR	K	228	17.495	37.685	18.103	1.00	29.63	K	C
ATOM 4129	CB	THR	K	228	16.389	36.746	18.683	1.00	25.23	K	C
ATOM 4130	OG1	THR	K	228	16.836	36.161	19.908	1.00	25.23	K	O
ATOM 4131	CG2	THR	K	228	16.025	35.651	17.687	1.00	25.23	K	C
ATOM 4132	C	THR	K	228	18.510	38.095	19.181	1.00	27.92	K	C
ATOM 4133	O	THR	K	228	19.349	37.298	19.610	1.00	29.94	K	O
ATOM 4134	N	LEU	K	229	18.444	39.362	19.579	1.00	36.12	K	N
ATOM 4135	CA	LEU	K	229	19.334	39.916	20.596	1.00	32.81	K	C
ATOM 4136	CB	LEU	K	229	19.363	41.443	20.493	1.00	19.92	K	C
ATOM 4137	CG	LEU	K	229	20.331	42.084	19.480	1.00	19.92	K	C
ATOM 4138	CD1	LEU	K	229	20.817	41.065	18.461	1.00	19.92	K	C
ATOM 4139	CD2	LEU	K	229	19.640	43.240	18.804	1.00	19.92	K	C
ATOM 4140	C	LEU	K	229	18.902	39.509	21.989	1.00	32.70	K	C
ATOM 4141	O	LEU	K	229	19.682	38.941	22.750	1.00	33.05	K	O
ATOM 4142	N	PHE	K	230	17.654	39.804	22.326	1.00	25.27	K	N
ATOM 4143	CA	PHE	K	230	17.123	39.451	23.638	1.00	25.01	K	C
ATOM 4144	CB	PHE	K	230	17.096	40.666	24.565	1.00	31.99	K	C
ATOM 4145	CG	PHE	K	230	18.202	41.624	24.314	1.00	31.99	K	C
ATOM 4146	CD1	PHE	K	230	17.972	42.782	23.584	1.00	31.99	K	C
ATOM 4147	CD2	PHE	K	230	19.499	41.336	24.740	1.00	31.99	K	C
ATOM 4148	CE1	PHE	K	230	19.020	43.642	23.274	1.00	31.99	K	C
ATOM 4149	CE2	PHE	K	230	20.560	42.188	24.436	1.00	31.99	K	C
ATOM 4150	CZ	PHE	K	230	20.326	43.341	23.702	1.00	31.99	K	C
ATOM 4151	C	PHE	K	230	15.713	38.940	23.472	1.00	26.90	K	C
ATOM 4152	O	PHE	K	230	15.051	39.241	22.483	1.00	25.66	K	O
ATOM 4153	N	ARG	K	231	15.259	38.152	24.437	1.00	14.68	K	N
ATOM 4154	CA	ARG	K	231	13.907	37.643	24.396	1.00	16.52	K	C
ATOM 4155	CB	ARG	K	231	13.843	36.261	23.729	1.00	31.89	K	C

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ATOM 4156	CG	ARG	K	231	14.534	35.141	24.450	1.00	31.89	K	C
ATOM 4157	CD	ARG	K	231	14.684	33.963	23.499	1.00	35.93	K	C
ATOM 4158	NE	ARG	K	231	15.099	32.732	24.171	1.00	43.27	K	N
ATOM 4159	CZ	ARG	K	231	14.293	31.989	24.916	1.00	53.77	K	C
ATOM 4160	NH1	ARG	K	231	13.033	32.351	25.079	1.00	50.00	K	N
ATOM 4161	NH2	ARG	K	231	14.745	30.896	25.508	1.00	54.54	K	N
ATOM 4162	C	ARG	K	231	13.305	37.624	25.787	1.00	18.66	K	C
ATOM 4163	O	ARG	K	231	14.003	37.620	26.805	1.00	21.65	K	O
ATOM 4164	N	CYS	K	232	11.985	37.641	25.806	1.00	24.05	K	N
ATOM 4165	CA	CYS	K	232	11.221	37.674	27.026	1.00	23.99	K	C
ATOM 4166	C	CYS	K	232	10.285	36.489	26.985	1.00	27.45	K	C
ATOM 4167	O	CYS	K	232	9.776	36.144	25.929	1.00	28.88	K	O
ATOM 4168	CB	CYS	K	232	10.410	38.968	27.048	1.00	45.81	K	C
ATOM 4169	SG	CYS	K	232	10.242	39.720	28.685	1.00	45.81	K	S
ATOM 4170	N	ILE	K	233	10.055	35.858	28.124	1.00	10.66	K	N
ATOM 4171	CA	ILE	K	233	9.137	34.723	28.176	1.00	12.36	K	C
ATOM 4172	CB	ILE	K	233	9.886	33.365	28.039	1.00	23.39	K	C
ATOM 4173	CG2	ILE	K	233	10.844	33.157	29.219	1.00	23.39	K	C
ATOM 4174	CG1	ILE	K	233	8.886	32.212	28.017	1.00	23.39	K	C
ATOM 4175	CD1	ILE	K	233	7.950	32.275	26.885	1.00	23.39	K	C
ATOM 4176	C	ILE	K	233	8.364	34.747	29.494	1.00	16.84	K	C
ATOM 4177	O	ILE	K	233	8.928	34.976	30.572	1.00	17.30	K	O
ATOM 4178	N	GLN	K	234	7.069	34.497	29.409	1.00	22.81	K	N
ATOM 4179	CA	GLN	K	234	6.241	34.528	30.596	1.00	26.70	K	C
ATOM 4180	CB	GLN	K	234	5.564	35.907	30.676	1.00	26.84	K	C
ATOM 4181	CG	GLN	K	234	5.027	36.305	32.032	1.00	26.84	K	C
ATOM 4182	CD	GLN	K	234	6.116	36.649	33.018	1.00	26.84	K	C
ATOM 4183	OE1	GLN	K	234	5.884	36.692	34.230	1.00	26.84	K	O
ATOM 4184	NE2	GLN	K	234	7.310	36.896	32.510	1.00	26.84	K	N
ATOM 4185	C	GLN	K	234	5.198	33.403	30.535	1.00	27.65	K	C
ATOM 4186	O	GLN	K	234	4.583	33.176	29.486	1.00	27.63	K	O
ATOM 4187	N	ASN	K	235	5.022	32.679	31.642	1.00	41.22	K	N
ATOM 4188	CA	ASN	K	235	4.019	31.615	31.688	1.00	44.66	K	C
ATOM 4189	CB	ASN	K	235	4.225	30.693	32.898	1.00	33.60	K	C
ATOM 4190	CG	ASN	K	235	5.317	29.662	32.685	1.00	33.60	K	C
ATOM 4191	OD1	ASN	K	235	5.285	28.867	31.744	1.00	33.60	K	O
ATOM 4192	ND2	ASN	K	235	6.286	29.663	33.577	1.00	33.60	K	N
ATOM 4193	C	ASN	K	235	2.668	32.316	31.824	1.00	42.56	K	C
ATOM 4194	O	ASN	K	235	2.557	33.336	32.509	1.00	39.87	K	O
ATOM 4195	N	MET	K	236	1.648	31.775	31.171	1.00	26.44	K	N
ATOM 4196	CA	MET	K	236	0.319	32.371	31.221	1.00	26.44	K	C
ATOM 4197	CB	MET	K	236	-0.191	32.641	29.805	1.00	33.60	K	C
ATOM 4198	CG	MET	K	236	0.663	33.600	29.001	1.00	33.60	K	C
ATOM 4199	SD	MET	K	236	0.679	35.245	29.716	1.00	33.60	K	S
ATOM 4200	CE	MET	K	236	2.251	35.198	30.457	1.00	33.60	K	C
ATOM 4201	C	MET	K	236	-0.666	31.457	31.940	1.00	26.44	K	C
ATOM 4202	O	MET	K	236	-0.590	30.238	31.818	1.00	26.44	K	O
ATOM 4203	N	PRO	K	237	-1.612	32.038	32.696	1.00	47.60	K	N
ATOM 4204	CD	PRO	K	237	-1.727	33.470	33.034	1.00	26.42	K	C
ATOM 4205	CA	PRO	K	237	-2.610	31.257	33.428	1.00	47.60	K	C
ATOM 4206	CB	PRO	K	237	-3.042	32.215	34.520	1.00	26.42	K	C
ATOM 4207	CG	PRO	K	237	-3.035	33.520	33.801	1.00	26.42	K	C
ATOM 4208	C	PRO	K	237	-3.773	30.853	32.531	1.00	47.60	K	C
ATOM 4209	O	PRO	K	237	-3.883	31.316	31.393	1.00	47.60	K	O
ATOM 4210	N	GLU	K	238	-4.641	29.994	33.056	1.00	51.40	K	N
ATOM 4211	CA	GLU	K	238	-5.806	29.515	32.318	1.00	51.40	K	C
ATOM 4212	CB	GLU	K	238	-6.426	28.321	33.049	1.00	146.37	K	C
ATOM 4213	CG	GLU	K	238	-5.562	27.077	33.035	1.00	146.37	K	C
ATOM 4214	CD	GLU	K	238	-5.430	26.487	31.648	1.00	146.37	K	C
ATOM 4215	OE1	GLU	K	238	-5.056	27.230	30.715	1.00	146.37	K	O
ATOM 4216	OE2	GLU	K	238	-5.699	25.278	31.490	1.00	146.37	K	O
ATOM 4217	C	GLU	K	238	-6.863	30.599	32.133	1.00	51.40	K	C
ATOM 4218	O	GLU	K	238	-7.431	30.750	31.052	1.00	51.40	K	O
ATOM 4219	N	THR	K	239	-7.120	31.356	33.194	1.00	64.42	K	N
ATOM 4220	CA	THR	K	239	-8.121	32.412	33.149	1.00	64.42	K	C
ATOM 4221	CB	THR	K	239	-9.203	32.167	34.210	1.00	57.71	K	C

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ATOM 4222	OG1	THR	K	239	-8.608	32.184	35.511	1.00	57.71	K	O
ATOM 4223	CG2	THR	K	239	-9.858	30.819	33.993	1.00	57.71	K	C
ATOM 4224	C	THR	K	239	-7.524	33.799	33.367	1.00	64.42	K	C
ATOM 4225	O	THR	K	239	-6.510	33.950	34.051	1.00	64.42	K	O
ATOM 4226	N	LEU	K	240	-8.166	34.808	32.780	1.00	43.45	K	N
ATOM 4227	CA	LEU	K	240	-7.720	36.193	32.899	1.00	43.45	K	C
ATOM 4228	CB	LEU	K	240	-8.058	36.756	34.288	1.00	47.96	K	C
ATOM 4229	CG	LEU	K	240	-9.524	36.964	34.652	1.00	47.96	K	C
ATOM 4230	CD1	LEU	K	240	-10.186	37.885	33.637	1.00	47.96	K	C
ATOM 4231	CD2	LEU	K	240	-10.223	35.627	34.685	1.00	47.96	K	C
ATOM 4232	C	LEU	K	240	-6.227	36.368	32.658	1.00	43.45	K	C
ATOM 4233	O	LEU	K	240	-5.547	37.048	33.431	1.00	43.45	K	O
ATOM 4234	N	PRO	K	241	-5.692	35.766	31.585	1.00	57.61	K	N
ATOM 4235	CD	PRO	K	241	-6.353	35.161	30.418	1.00	35.43	K	C
ATOM 4236	CA	PRO	K	241	-4.257	35.930	31.340	1.00	53.60	K	C
ATOM 4237	CB	PRO	K	241	-4.056	35.215	30.012	1.00	35.43	K	C
ATOM 4238	CG	PRO	K	241	-5.358	35.435	29.321	1.00	35.43	K	C
ATOM 4239	C	PRO	K	241	-3.930	37.414	31.263	1.00	51.19	K	C
ATOM 4240	O	PRO	K	241	-4.549	38.153	30.498	1.00	52.23	K	O
ATOM 4241	N	ASN	K	242	-2.956	37.848	32.052	1.00	29.57	K	N
ATOM 4242	CA	ASN	K	242	-2.608	39.255	32.077	1.00	26.34	K	C
ATOM 4243	CB	ASN	K	242	-3.599	39.978	33.000	1.00	45.83	K	C
ATOM 4244	CG	ASN	K	242	-4.037	41.312	32.453	1.00	45.83	K	C
ATOM 4245	OD1	ASN	K	242	-5.000	41.904	32.935	1.00	45.83	K	O
ATOM 4246	ND2	ASN	K	242	-3.331	41.799	31.444	1.00	45.83	K	N
ATOM 4247	C	ASN	K	242	-1.178	39.478	32.550	1.00	23.90	K	C
ATOM 4248	O	ASN	K	242	-0.968	39.894	33.688	1.00	24.03	K	O
ATOM 4249	N	ASN	K	243	-0.200	39.219	31.685	1.00	51.45	K	N
ATOM 4250	CA	ASN	K	243	1.209	39.389	32.055	1.00	48.76	K	C
ATOM 4251	CB	ASN	K	243	1.909	38.031	32.123	1.00	28.85	K	C
ATOM 4252	CG	ASN	K	243	1.662	37.298	33.425	1.00	28.85	K	C
ATOM 4253	OD1	ASN	K	243	1.515	36.071	33.434	1.00	28.85	K	O
ATOM 4254	ND2	ASN	K	243	1.633	38.035	34.535	1.00	28.85	K	N
ATOM 4255	C	ASN	K	243	2.009	40.261	31.104	1.00	45.89	K	C
ATOM 4256	O	ASN	K	243	2.007	40.022	29.902	1.00	45.81	K	O
ATOM 4257	N	SER	K	244	2.697	41.266	31.636	1.00	16.66	K	N
ATOM 4258	CA	SER	K	244	3.546	42.122	30.807	1.00	16.66	K	C
ATOM 4259	CB	SER	K	244	3.534	43.576	31.305	1.00	32.03	K	C
ATOM 4260	OG	SER	K	244	4.092	43.719	32.604	1.00	32.03	K	O
ATOM 4261	C	SER	K	244	4.965	41.549	30.914	1.00	20.40	K	C
ATOM 4262	O	SER	K	244	5.317	40.942	31.925	1.00	25.72	K	O
ATOM 4263	N	CYS	K	245	5.776	41.732	29.880	1.00	34.01	K	N
ATOM 4264	CA	CYS	K	245	7.134	41.208	29.895	1.00	32.26	K	C
ATOM 4265	C	CYS	K	245	8.079	42.262	29.356	1.00	32.82	K	C
ATOM 4266	O	CYS	K	245	7.857	42.790	28.273	1.00	30.78	K	O
ATOM 4267	CB	CYS	K	245	7.216	39.956	29.020	1.00	51.55	K	C
ATOM 4268	SG	CYS	K	245	8.585	38.848	29.474	1.00	51.55	K	S
ATOM 4269	N	TYR	K	246	9.132	42.570	30.107	1.00	25.89	K	N
ATOM 4270	CA	TYR	K	246	10.117	43.571	29.682	1.00	22.61	K	C
ATOM 4271	CB	TYR	K	246	10.090	44.773	30.639	1.00	24.54	K	C
ATOM 4272	CG	TYR	K	246	11.220	45.778	30.459	1.00	24.54	K	C
ATOM 4273	CD1	TYR	K	246	10.981	47.052	29.937	1.00	24.54	K	C
ATOM 4274	CE1	TYR	K	246	12.022	47.988	29.801	1.00	24.54	K	C
ATOM 4275	CD2	TYR	K	246	12.529	45.463	30.833	1.00	24.54	K	C
ATOM 4276	CE2	TYR	K	246	13.568	46.384	30.698	1.00	24.54	K	C
ATOM 4277	CZ	TYR	K	246	13.310	47.643	30.190	1.00	24.54	K	C
ATOM 4278	OH	TYR	K	246	14.342	48.560	30.117	1.00	24.54	K	O
ATOM 4279	C	TYR	K	246	11.528	42.997	29.642	1.00	21.34	K	C
ATOM 4280	O	TYR	K	246	11.922	42.236	30.520	1.00	20.52	K	O
ATOM 4281	N	SER	K	247	12.288	43.354	28.619	1.00	27.56	K	N
ATOM 4282	CA	SER	K	247	13.665	42.895	28.528	1.00	26.26	K	C
ATOM 4283	CB	SER	K	247	13.764	41.544	27.812	1.00	21.67	K	C
ATOM 4284	OG	SER	K	247	15.073	41.011	27.927	1.00	21.67	K	O
ATOM 4285	C	SER	K	247	14.467	43.941	27.779	1.00	25.48	K	C
ATOM 4286	O	SER	K	247	13.949	44.611	26.876	1.00	22.91	K	O
ATOM 4287	N	ALA	K	248	15.731	44.089	28.163	1.00	28.25	K	N

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ATOM 4288	CA	ALA	K	248	16.597	45.067	27.525	1.00	28.58	K	C
ATOM 4289	CB	ALA	K	248	16.483	46.408	28.236	1.00	9.30	K	C
ATOM 4290	C	ALA	K	248	18.032	44.602	27.537	1.00	27.29	K	C
ATOM 4291	O	ALA	K	248	18.406	43.737	28.311	1.00	23.96	K	O
ATOM 4292	N	GLY	K	249	18.834	45.187	26.667	1.00	39.60	K	N
ATOM 4293	CA	GLY	K	249	20.228	44.815	26.612	1.00	31.82	K	C
ATOM 4294	C	GLY	K	249	20.995	45.789	25.753	1.00	36.05	K	C
ATOM 4295	O	GLY	K	249	20.405	46.697	25.163	1.00	33.87	K	O
ATOM 4296	N	ILE	K	250	22.310	45.613	25.684	1.00	15.98	K	N
ATOM 4297	CA	ILE	K	250	23.135	46.492	24.882	1.00	15.98	K	C
ATOM 4298	CB	ILE	K	250	24.313	47.052	25.704	1.00	10.19	K	C
ATOM 4299	CG2	ILE	K	250	25.181	47.964	24.833	1.00	10.19	K	C
ATOM 4300	CG1	ILE	K	250	23.764	47.821	26.913	1.00	10.19	K	C
ATOM 4301	CD1	ILE	K	250	24.810	48.576	27.713	1.00	10.19	K	C
ATOM 4302	C	ILE	K	250	23.647	45.671	23.733	1.00	15.98	K	C
ATOM 4303	O	ILE	K	250	23.892	44.479	23.888	1.00	16.05	K	O
ATOM 4304	N	ALA	K	251	23.779	46.293	22.570	1.00	18.75	K	N
ATOM 4305	CA	ALA	K	251	24.289	45.589	21.391	1.00	20.05	K	C
ATOM 4306	CB	ALA	K	251	23.177	44.812	20.702	1.00	8.82	K	C
ATOM 4307	C	ALA	K	251	24.884	46.577	20.420	1.00	23.26	K	C
ATOM 4308	O	ALA	K	251	24.404	47.708	20.302	1.00	22.79	K	O
ATOM 4309	N	LYS	K	252	25.939	46.162	19.728	1.00	31.85	K	N
ATOM 4310	CA	LYS	K	252	26.559	47.045	18.753	1.00	32.00	K	C
ATOM 4311	CB	LYS	K	252	28.057	46.777	18.652	1.00	62.40	K	C
ATOM 4312	CG	LYS	K	252	28.773	47.725	17.716	1.00	62.88	K	C
ATOM 4313	CD	LYS	K	252	30.265	47.707	17.989	1.00	62.88	K	C
ATOM 4314	CE	LYS	K	252	31.029	48.600	17.028	1.00	62.88	K	C
ATOM 4315	NZ	LYS	K	252	30.951	48.079	15.636	1.00	62.88	K	N
ATOM 4316	C	LYS	K	252	25.877	46.808	17.409	1.00	32.62	K	C
ATOM 4317	O	LYS	K	252	25.845	45.692	16.902	1.00	35.50	K	O
ATOM 4318	N	LEU	K	253	25.294	47.863	16.859	1.00	40.54	K	N
ATOM 4319	CA	LEU	K	253	24.603	47.780	15.581	1.00	40.27	K	C
ATOM 4320	CB	LEU	K	253	23.193	48.363	15.707	1.00	32.50	K	C
ATOM 4321	CG	LEU	K	253	22.065	47.602	16.406	1.00	34.04	K	C
ATOM 4322	CD1	LEU	K	253	22.600	46.433	17.216	1.00	28.84	K	C
ATOM 4323	CD2	LEU	K	253	21.288	48.601	17.259	1.00	30.34	K	C
ATOM 4324	C	LEU	K	253	25.364	48.552	14.505	1.00	41.63	K	C
ATOM 4325	O	LEU	K	253	26.049	49.531	14.804	1.00	39.21	K	O
ATOM 4326	N	GLU	K	254	25.237	48.107	13.257	1.00	33.92	K	N
ATOM 4327	CA	GLU	K	254	25.897	48.762	12.137	1.00	35.59	K	C
ATOM 4328	CB	GLU	K	254	26.514	47.745	11.189	1.00	129.64	K	C
ATOM 4329	CG	GLU	K	254	27.751	47.072	11.698	1.00	98.93	K	C
ATOM 4330	CD	GLU	K	254	28.450	46.313	10.595	1.00	98.93	K	C
ATOM 4331	OE1	GLU	K	254	28.875	46.955	9.613	1.00	98.93	K	O
ATOM 4332	OE2	GLU	K	254	28.570	45.076	10.699	1.00	98.93	K	O
ATOM 4333	C	GLU	K	254	24.882	49.570	11.359	1.00	36.38	K	C
ATOM 4334	O	GLU	K	254	23.707	49.191	11.276	1.00	36.10	K	O
ATOM 4335	N	GLU	K	255	25.332	50.683	10.782	1.00	41.83	K	N
ATOM 4336	CA	GLU	K	255	24.436	51.513	9.991	1.00	40.73	K	C
ATOM 4337	CB	GLU	K	255	25.201	52.628	9.291	1.00	53.38	K	C
ATOM 4338	CG	GLU	K	255	24.360	53.358	8.264	1.00	53.38	K	C
ATOM 4339	CD	GLU	K	255	25.130	54.431	7.533	1.00	53.38	K	C
ATOM 4340	OE1	GLU	K	255	24.530	55.088	6.654	1.00	53.38	K	O
ATOM 4341	OE2	GLU	K	255	26.330	54.619	7.837	1.00	53.38	K	O
ATOM 4342	C	GLU	K	255	23.790	50.626	8.944	1.00	43.18	K	C
ATOM 4343	O	GLU	K	255	24.474	49.899	8.232	1.00	46.41	K	O
ATOM 4344	N	GLY	K	256	22.470	50.675	8.856	1.00	22.38	K	N
ATOM 4345	CA	GLY	K	256	21.780	49.852	7.883	1.00	22.38	K	C
ATOM 4346	C	GLY	K	256	20.987	48.765	8.568	1.00	22.38	K	C
ATOM 4347	O	GLY	K	256	20.009	48.261	8.007	1.00	22.38	K	O
ATOM 4348	N	ASP	K	257	21.410	48.395	9.777	1.00	27.91	K	N
ATOM 4349	CA	ASP	K	257	20.716	47.357	10.533	1.00	31.19	K	C
ATOM 4350	CB	ASP	K	257	21.472	47.007	11.821	1.00	41.60	K	C
ATOM 4351	CG	ASP	K	257	22.726	46.217	11.567	1.00	41.60	K	C
ATOM 4352	OD1	ASP	K	257	22.812	45.574	10.496	1.00	41.60	K	O
ATOM 4353	OD2	ASP	K	257	23.610	46.226	12.452	1.00	41.60	K	O

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Figure 8-67

ATOM 4354	C	ASP K 257	19.322	47.818	10.916	1.00	30.98	K	C
ATOM 4355	O	ASP K 257	19.038	49.014	10.945	1.00	35.44	K	O
ATOM 4356	N	GLU K 258	18.459	46.854	11.209	1.00	25.30	K	N
ATOM 4357	CA	GLU K 258	17.091	47.137	11.635	1.00	21.96	K	C
ATOM 4358	CB	GLU K 258	16.085	46.804	10.526	1.00	50.60	K	C
ATOM 4359	CG	GLU K 258	16.061	47.793	9.364	1.00	50.60	K	C
ATOM 4360	CD	GLU K 258	15.054	47.401	8.289	1.00	50.60	K	C
ATOM 4361	OE1	GLU K 258	14.775	48.216	7.384	1.00	50.60	K	O
ATOM 4362	OE2	GLU K 258	14.540	46.268	8.340	1.00	50.60	K	O
ATOM 4363	C	GLU K 258	16.780	46.305	12.873	1.00	20.67	K	C
ATOM 4364	O	GLU K 258	17.296	45.197	13.035	1.00	20.67	K	O
ATOM 4365	N	LEU K 259	15.968	46.859	13.763	1.00	39.71	K	N
ATOM 4366	CA	LEU K 259	15.563	46.156	14.974	1.00	36.18	K	C
ATOM 4367	CB	LEU K 259	15.901	46.987	16.216	1.00	18.49	K	C
ATOM 4368	CG	LEU K 259	17.374	47.299	16.516	1.00	18.49	K	C
ATOM 4369	CD1	LEU K 259	17.435	48.297	17.642	1.00	18.49	K	C
ATOM 4370	CD2	LEU K 259	18.145	46.030	16.897	1.00	18.49	K	C
ATOM 4371	C	LEU K 259	14.051	45.978	14.865	1.00	33.52	K	C
ATOM 4372	O	LEU K 259	13.346	46.900	14.448	1.00	37.60	K	O
ATOM 4373	N	GLN K 260	13.548	44.799	15.209	1.00	22.66	K	N
ATOM 4374	CA	GLN K 260	12.111	44.545	15.138	1.00	21.42	K	C
ATOM 4375	CB	GLN K 260	11.771	43.778	13.862	1.00	25.04	K	C
ATOM 4376	CG	GLN K 260	12.099	42.289	13.940	1.00	25.04	K	C
ATOM 4377	CD	GLN K 260	11.929	41.559	12.610	1.00	25.04	K	C
ATOM 4378	OE1	GLN K 260	11.930	40.319	12.559	1.00	25.04	K	O
ATOM 4379	NE2	GLN K 260	11.798	42.322	11.525	1.00	25.04	K	N
ATOM 4380	C	GLN K 260	11.698	43.713	16.348	1.00	21.41	K	C
ATOM 4381	O	GLN K 260	12.492	42.934	16.873	1.00	18.94	K	O
ATOM 4382	N	LEU K 261	10.462	43.873	16.798	1.00	30.02	K	N
ATOM 4383	CA	LEU K 261	9.984	43.109	17.943	1.00	30.33	K	C
ATOM 4384	CB	LEU K 261	9.313	44.043	18.955	1.00	17.71	K	C
ATOM 4385	CG	LEU K 261	9.014	43.414	20.316	1.00	17.71	K	C
ATOM 4386	CD1	LEU K 261	8.872	44.517	21.363	1.00	17.71	K	C
ATOM 4387	CD2	LEU K 261	7.764	42.550	20.237	1.00	17.71	K	C
ATOM 4388	C	LEU K 261	8.999	42.066	17.429	1.00	34.00	K	C
ATOM 4389	O	LEU K 261	7.957	42.408	16.877	1.00	34.67	K	O
ATOM 4390	N	ALA K 262	9.324	40.793	17.613	1.00	22.79	K	N
ATOM 4391	CA	ALA K 262	8.464	39.730	17.113	1.00	25.19	K	C
ATOM 4392	CB	ALA K 262	9.190	38.962	16.032	1.00	16.00	K	C
ATOM 4393	C	ALA K 262	7.939	38.753	18.157	1.00	24.49	K	C
ATOM 4394	O	ALA K 262	8.665	38.334	19.067	1.00	24.52	K	O
ATOM 4395	N	ILE K 263	6.668	38.385	18.010	1.00	28.32	K	N
ATOM 4396	CA	ILE K 263	6.028	37.432	18.908	1.00	27.36	K	C
ATOM 4397	CB	ILE K 263	4.664	37.949	19.379	1.00	11.63	K	C
ATOM 4398	CG2	ILE K 263	4.000	36.899	20.252	1.00	11.63	K	C
ATOM 4399	CG1	ILE K 263	4.845	39.264	20.149	1.00	11.63	K	C
ATOM 4400	CD1	ILE K 263	3.549	39.986	20.472	1.00	11.63	K	C
ATOM 4401	C	ILE K 263	5.855	36.117	18.143	1.00	25.68	K	C
ATOM 4402	O	ILE K 263	5.130	36.049	17.152	1.00	25.43	K	O
ATOM 4403	N	PRO K 264	6.539	35.057	18.597	1.00	40.18	K	N
ATOM 4404	CD	PRO K 264	7.480	35.096	19.724	1.00	31.41	K	C
ATOM 4405	CA	PRO K 264	6.519	33.717	18.000	1.00	40.18	K	C
ATOM 4406	CB	PRO K 264	7.673	33.005	18.698	1.00	31.41	K	C
ATOM 4407	CG	PRO K 264	8.511	34.130	19.263	1.00	31.41	K	C
ATOM 4408	C	PRO K 264	5.224	32.985	18.227	1.00	40.18	K	C
ATOM 4409	O	PRO K 264	5.222	31.911	18.817	1.00	40.18	K	O
ATOM 4410	N	ARG K 265	4.130	33.555	17.745	1.00	45.96	K	N
ATOM 4411	CA	ARG K 265	2.825	32.950	17.923	1.00	45.96	K	C
ATOM 4412	CB	ARG K 265	2.317	33.303	19.317	1.00	73.57	K	C
ATOM 4413	CG	ARG K 265	0.925	32.836	19.631	1.00	73.57	K	C
ATOM 4414	CD	ARG K 265	0.898	31.380	19.991	1.00	73.57	K	C
ATOM 4415	NE	ARG K 265	-0.468	30.948	20.245	1.00	73.57	K	N
ATOM 4416	CZ	ARG K 265	-0.803	29.717	20.612	1.00	73.57	K	C
ATOM 4417	NH1	ARG K 265	0.137	28.795	20.770	1.00	73.57	K	N
ATOM 4418	NH2	ARG K 265	-2.078	29.406	20.814	1.00	73.57	K	N
ATOM 4419	C	ARG K 265	1.875	33.493	16.860	1.00	45.96	K	C

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ATOM 4420	O	ARG	K	265	1.937	34.678	16.528	1.00	45.96	K	O
ATOM 4421	N	GLU	K	266	1.016	32.636	16.303	1.00	40.17	K	N
ATOM 4422	CA	GLU	K	266	0.053	33.106	15.312	1.00	40.17	K	C
ATOM 4423	CB	GLU	K	266	-0.477	31.944	14.477	1.00	88.42	K	C
ATOM 4424	CG	GLU	K	266	0.515	31.474	13.430	1.00	88.42	K	C
ATOM 4425	CD	GLU	K	266	-0.037	30.383	12.543	1.00	88.42	K	C
ATOM 4426	OE1	GLU	K	266	-1.130	30.571	11.972	1.00	88.42	K	O
ATOM 4427	OE2	GLU	K	266	0.627	29.338	12.411	1.00	88.42	K	O
ATOM 4428	C	GLU	K	266	-1.075	33.801	16.069	1.00	40.17	K	C
ATOM 4429	O	GLU	K	266	-1.664	33.232	16.986	1.00	40.17	K	O
ATOM 4430	N	ASN	K	267	-1.353	35.046	15.702	1.00	31.16	K	N
ATOM 4431	CA	ASN	K	267	-2.387	35.806	16.381	1.00	31.16	K	C
ATOM 4432	CB	ASN	K	267	-3.761	35.212	16.078	1.00	43.27	K	C
ATOM 4433	CG	ASN	K	267	-4.073	35.231	14.591	1.00	43.27	K	C
ATOM 4434	OD1	ASN	K	267	-3.572	34.396	13.836	1.00	43.27	K	O
ATOM 4435	ND2	ASN	K	267	-4.882	36.208	14.157	1.00	43.27	K	N
ATOM 4436	C	ASN	K	267	-2.094	35.796	17.873	1.00	31.16	K	C
ATOM 4437	O	ASN	K	267	-2.824	35.219	18.666	1.00	31.16	K	O
ATOM 4438	N	ALA	K	268	-1.001	36.458	18.226	1.00	67.72	K	N
ATOM 4439	CA	ALA	K	268	-0.526	36.552	19.595	1.00	67.72	K	C
ATOM 4440	CB	ALA	K	268	0.465	37.699	19.713	1.00	81.29	K	C
ATOM 4441	C	ALA	K	268	-1.581	36.693	20.679	1.00	67.72	K	C
ATOM 4442	O	ALA	K	268	-1.714	35.819	21.535	1.00	67.72	K	O
ATOM 4443	N	GLN	K	269	-2.322	37.794	20.647	1.00	38.15	K	N
ATOM 4444	CA	GLN	K	269	-3.328	38.085	21.668	1.00	36.08	K	C
ATOM 4445	CB	GLN	K	269	-3.845	36.800	22.319	1.00	74.91	K	C
ATOM 4446	CG	GLN	K	269	-5.282	36.866	22.757	1.00	67.56	K	C
ATOM 4447	CD	GLN	K	269	-6.200	37.249	21.612	1.00	67.56	K	C
ATOM 4448	OE1	GLN	K	269	-6.011	36.809	20.476	1.00	67.56	K	O
ATOM 4449	NE2	GLN	K	269	-7.207	38.068	21.908	1.00	67.56	K	N
ATOM 4450	C	GLN	K	269	-2.595	38.939	22.711	1.00	36.77	K	C
ATOM 4451	O	GLN	K	269	-2.352	38.503	23.834	1.00	35.36	K	O
ATOM 4452	N	ILE	K	270	-2.239	40.158	22.316	1.00	33.29	K	N
ATOM 4453	CA	ILE	K	270	-1.511	41.071	23.182	1.00	31.50	K	C
ATOM 4454	CB	ILE	K	270	-0.248	41.522	22.486	1.00	24.79	K	C
ATOM 4455	CG2	ILE	K	270	0.590	40.307	22.146	1.00	28.35	K	C
ATOM 4456	CG1	ILE	K	270	-0.593	42.243	21.190	1.00	28.35	K	C
ATOM 4457	CD1	ILE	K	270	0.612	42.856	20.508	1.00	24.79	K	C
ATOM 4458	C	ILE	K	270	-2.334	42.283	23.606	1.00	31.14	K	C
ATOM 4459	O	ILE	K	270	-3.550	42.263	23.496	1.00	29.12	K	O
ATOM 4460	N	SER	K	271	-1.698	43.353	24.069	1.00	45.58	K	N
ATOM 4461	CA	SER	K	271	-2.487	44.482	24.534	1.00	46.24	K	C
ATOM 4462	CB	SER	K	271	-2.010	44.923	25.911	1.00	34.91	K	C
ATOM 4463	OG	SER	K	271	-2.939	45.829	26.494	1.00	29.67	K	O
ATOM 4464	C	SER	K	271	-2.643	45.714	23.665	1.00	43.55	K	C
ATOM 4465	O	SER	K	271	-3.688	46.360	23.712	1.00	44.91	K	O
ATOM 4466	N	LEU	K	272	-1.636	46.072	22.884	1.00	18.55	K	N
ATOM 4467	CA	LEU	K	272	-1.766	47.267	22.026	1.00	17.05	K	C
ATOM 4468	CB	LEU	K	272	-2.905	47.105	21.010	1.00	12.55	K	C
ATOM 4469	CG	LEU	K	272	-2.685	46.226	19.786	1.00	21.70	K	C
ATOM 4470	CD1	LEU	K	272	-1.625	46.832	18.931	1.00	21.70	K	C
ATOM 4471	CD2	LEU	K	272	-2.279	44.843	20.210	1.00	21.70	K	C
ATOM 4472	C	LEU	K	272	-1.993	48.575	22.804	1.00	23.41	K	C
ATOM 4473	O	LEU	K	272	-2.244	49.630	22.215	1.00	21.81	K	O
ATOM 4474	N	ASP	K	273	-1.907	48.501	24.126	1.00	37.90	K	N
ATOM 4475	CA	ASP	K	273	-2.061	49.678	24.971	1.00	33.07	K	C
ATOM 4476	CB	ASP	K	273	-2.429	49.229	26.382	1.00	68.43	K	C
ATOM 4477	CG	ASP	K	273	-3.544	50.046	26.978	1.00	68.43	K	C
ATOM 4478	OD1	ASP	K	273	-4.582	50.196	26.303	1.00	68.43	K	O
ATOM 4479	OD2	ASP	K	273	-3.381	50.530	28.120	1.00	68.43	K	O
ATOM 4480	C	ASP	K	273	-0.695	50.392	24.961	1.00	34.73	K	C
ATOM 4481	O	ASP	K	273	0.290	49.872	25.496	1.00	38.06	K	O
ATOM 4482	N	GLY	K	274	-0.641	51.572	24.349	1.00	69.80	K	N
ATOM 4483	CA	GLY	K	274	0.606	52.321	24.239	1.00	69.80	K	C
ATOM 4484	C	GLY	K	274	1.542	52.457	25.429	1.00	69.80	K	C
ATOM 4485	O	GLY	K	274	2.736	52.701	25.267	1.00	69.80	K	O

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ATOM 4486	N	ASP	K	275	1.005	52.293	26.627	1.00	37.82	K	N
ATOM 4487	CA	ASP	K	275	1.789	52.419	27.856	1.00	37.82	K	C
ATOM 4488	CB	ASP	K	275	0.984	53.193	28.896	1.00	30.56	K	C
ATOM 4489	CG	ASP	K	275	-0.245	52.425	29.357	1.00	30.56	K	C
ATOM 4490	OD1	ASP	K	275	-0.508	51.331	28.807	1.00	30.56	K	O
ATOM 4491	OD2	ASP	K	275	-0.951	52.912	30.263	1.00	30.56	K	O
ATOM 4492	C	ASP	K	275	2.197	51.077	28.475	1.00	37.82	K	C
ATOM 4493	O	ASP	K	275	2.701	51.029	29.605	1.00	37.82	K	O
ATOM 4494	N	VAL	K	276	1.964	49.987	27.760	1.00	30.18	K	N
ATOM 4495	CA	VAL	K	276	2.328	48.700	28.305	1.00	29.29	K	C
ATOM 4496	CB	VAL	K	276	1.080	47.957	28.863	1.00	18.61	K	C
ATOM 4497	CG1	VAL	K	276	0.206	47.443	27.724	1.00	18.61	K	C
ATOM 4498	CG2	VAL	K	276	1.523	46.822	29.779	1.00	18.61	K	C
ATOM 4499	C	VAL	K	276	3.038	47.863	27.245	1.00	27.40	K	C
ATOM 4500	O	VAL	K	276	3.737	46.907	27.560	1.00	27.79	K	O
ATOM 4501	N	THR	K	277	2.862	48.237	25.986	1.00	24.18	K	N
ATOM 4502	CA	THR	K	277	3.516	47.551	24.871	1.00	24.27	K	C
ATOM 4503	CB	THR	K	277	2.488	46.859	23.946	1.00	14.76	K	C
ATOM 4504	OG1	THR	K	277	1.837	45.809	24.665	1.00	15.49	K	O
ATOM 4505	CG2	THR	K	277	3.173	46.281	22.721	1.00	16.19	K	C
ATOM 4506	C	THR	K	277	4.298	48.597	24.064	1.00	22.54	K	C
ATOM 4507	O	THR	K	277	3.732	49.318	23.247	1.00	24.72	K	O
ATOM 4508	N	PHE	K	278	5.597	48.685	24.314	1.00	25.17	K	N
ATOM 4509	CA	PHE	K	278	6.456	49.650	23.634	1.00	19.34	K	C
ATOM 4510	CB	PHE	K	278	6.673	50.874	24.520	1.00	18.76	K	C
ATOM 4511	CG	PHE	K	278	6.989	50.538	25.943	1.00	18.76	K	C
ATOM 4512	CD1	PHE	K	278	8.307	50.426	26.373	1.00	18.76	K	C
ATOM 4513	CD2	PHE	K	278	5.961	50.299	26.855	1.00	18.76	K	C
ATOM 4514	CE1	PHE	K	278	8.597	50.082	27.691	1.00	18.76	K	C
ATOM 4515	CE2	PHE	K	278	6.241	49.955	28.167	1.00	18.76	K	C
ATOM 4516	CZ	PHE	K	278	7.564	49.845	28.587	1.00	18.76	K	C
ATOM 4517	C	PHE	K	278	7.794	49.040	23.256	1.00	21.80	K	C
ATOM 4518	O	PHE	K	278	8.191	48.000	23.772	1.00	26.96	K	O
ATOM 4519	N	PHE	K	279	8.497	49.718	22.366	1.00	34.68	K	N
ATOM 4520	CA	PHE	K	279	9.766	49.240	21.847	1.00	34.08	K	C
ATOM 4521	CB	PHE	K	279	9.467	48.567	20.507	1.00	30.27	K	C
ATOM 4522	CG	PHE	K	279	10.646	47.954	19.844	1.00	27.34	K	C
ATOM 4523	CD1	PHE	K	279	11.654	47.356	20.583	1.00	29.82	K	C
ATOM 4524	CD2	PHE	K	279	10.719	47.915	18.455	1.00	24.74	K	C
ATOM 4525	CE1	PHE	K	279	12.720	46.721	19.938	1.00	30.11	K	C
ATOM 4526	CE2	PHE	K	279	11.778	47.284	17.805	1.00	25.48	K	C
ATOM 4527	CZ	PHE	K	279	12.779	46.687	18.539	1.00	27.89	K	C
ATOM 4528	C	PHE	K	279	10.655	50.462	21.684	1.00	38.06	K	C
ATOM 4529	O	PHE	K	279	10.193	51.500	21.210	1.00	35.57	K	O
ATOM 4530	N	GLY	K	280	11.918	50.364	22.086	1.00	25.30	K	N
ATOM 4531	CA	GLY	K	280	12.790	51.524	21.966	1.00	25.99	K	C
ATOM 4532	C	GLY	K	280	14.285	51.266	21.947	1.00	25.87	K	C
ATOM 4533	O	GLY	K	280	14.756	50.199	22.346	1.00	25.54	K	O
ATOM 4534	N	ALA	K	281	15.038	52.257	21.479	1.00	20.30	K	N
ATOM 4535	CA	ALA	K	281	16.492	52.151	21.398	1.00	20.30	K	C
ATOM 4536	CB	ALA	K	281	16.908	51.739	20.000	1.00	13.52	K	C
ATOM 4537	C	ALA	K	281	17.137	53.477	21.761	1.00	20.30	K	C
ATOM 4538	O	ALA	K	281	16.704	54.536	21.307	1.00	20.30	K	O
ATOM 4539	N	LEU	K	282	18.176	53.403	22.582	1.00	31.05	K	N
ATOM 4540	CA	LEU	K	282	18.900	54.584	23.041	1.00	28.94	K	C
ATOM 4541	CB	LEU	K	282	18.775	54.707	24.559	1.00	21.23	K	C
ATOM 4542	CG	LEU	K	282	19.221	55.989	25.264	1.00	25.23	K	C
ATOM 4543	CD1	LEU	K	282	19.085	55.783	26.755	1.00	21.66	K	C
ATOM 4544	CD2	LEU	K	282	20.644	56.326	24.932	1.00	27.13	K	C
ATOM 4545	C	LEU	K	282	20.361	54.399	22.663	1.00	29.81	K	C
ATOM 4546	O	LEU	K	282	20.952	53.364	22.971	1.00	29.14	K	O
ATOM 4547	N	LYS	K	283	20.948	55.394	22.001	1.00	31.10	K	N
ATOM 4548	CA	LYS	K	283	22.347	55.277	21.613	1.00	32.61	K	C
ATOM 4549	CB	LYS	K	283	22.664	56.120	20.383	1.00	45.92	K	C
ATOM 4550	CG	LYS	K	283	24.085	55.891	19.920	1.00	49.59	K	C
ATOM 4551	CD	LYS	K	283	24.416	56.644	18.665	1.00	44.44	K	C

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Figure 8-70

ATOM 4552	CE	LYS	K	283	25.802	56.267	18.193	1.00	43.84	K	C
ATOM 4553	NZ	LYS	K	283	26.176	57.024	16.971	1.00	45.76	K	N
ATOM 4554	C	LYS	K	283	23.297	55.669	22.733	1.00	35.64	K	C
ATOM 4555	O	LYS	K	283	23.272	56.795	23.220	1.00	34.71	K	O
ATOM 4556	N	LEU	K	284	24.131	54.723	23.140	1.00	35.77	K	N
ATOM 4557	CA	LEU	K	284	25.100	54.968	24.193	1.00	39.12	K	C
ATOM 4558	CB	LEU	K	284	25.743	53.655	24.625	1.00	27.14	K	C
ATOM 4559	CG	LEU	K	284	24.719	52.709	25.254	1.00	24.43	K	C
ATOM 4560	CD1	LEU	K	284	25.377	51.390	25.670	1.00	22.37	K	C
ATOM 4561	CD2	LEU	K	284	24.097	53.409	26.455	1.00	25.81	K	C
ATOM 4562	C	LEU	K	284	26.160	55.922	23.679	1.00	41.79	K	C
ATOM 4563	O	LEU	K	284	26.671	55.754	22.573	1.00	43.58	K	O
ATOM 4564	N	LEU	K	285	26.476	56.932	24.481	1.00	54.99	K	N
ATOM 4565	CA	LEU	K	285	27.473	57.922	24.104	1.00	54.99	K	C
ATOM 4566	CB	LEU	K	285	27.542	59.022	25.154	1.00	75.74	K	C
ATOM 4567	CG	LEU	K	285	27.967	60.366	24.585	1.00	75.74	K	C
ATOM 4568	CD1	LEU	K	285	26.854	60.905	23.703	1.00	75.74	K	C
ATOM 4569	CD2	LEU	K	285	28.251	61.328	25.715	1.00	75.74	K	C
ATOM 4570	C	LEU	K	285	28.836	57.258	23.970	1.00	54.99	K	C
ATOM 4571	O	LEU	K	285	29.598	57.631	23.056	1.00	56.45	K	O
ATOM 4572	OXT	LEU	K	285	29.127	56.375	24.797	1.00	61.60	K	O
ATOM 4573	CB	VAL	L	142	29.537	67.035	31.155	1.00	74.50	L	C
ATOM 4574	CG1	VAL	L	142	29.631	67.903	29.915	1.00	74.50	L	C
ATOM 4575	CG2	VAL	L	142	29.892	67.844	32.413	1.00	74.50	L	C
ATOM 4576	C	VAL	L	142	28.144	65.373	32.363	1.00	65.62	L	C
ATOM 4577	O	VAL	L	142	28.941	64.440	32.288	1.00	65.62	L	O
ATOM 4578	N	VAL	L	142	27.116	67.518	31.591	1.00	65.62	L	N
ATOM 4579	CA	VAL	L	142	28.110	66.450	31.283	1.00	65.62	L	C
ATOM 4580	N	THR	L	143	27.275	65.492	33.361	1.00	65.43	L	N
ATOM 4581	CA	THR	L	143	27.270	64.527	34.449	1.00	65.43	L	C
ATOM 4582	CB	THR	L	143	27.337	65.228	35.803	1.00	95.47	L	C
ATOM 4583	OG1	THR	L	143	26.319	66.229	35.858	1.00	95.47	L	O
ATOM 4584	CG2	THR	L	143	28.695	65.873	36.010	1.00	95.47	L	C
ATOM 4585	C	THR	L	143	26.091	63.574	34.477	1.00	65.43	L	C
ATOM 4586	O	THR	L	143	26.095	62.622	35.250	1.00	65.43	L	O
ATOM 4587	N	GLN	L	144	25.075	63.823	33.662	1.00	55.38	L	N
ATOM 4588	CA	GLN	L	144	23.916	62.925	33.622	1.00	46.00	L	C
ATOM 4589	CB	GLN	L	144	24.343	61.574	33.027	1.00	78.99	L	C
ATOM 4590	CG	GLN	L	144	23.262	60.846	32.252	1.00	78.99	L	C
ATOM 4591	CD	GLN	L	144	23.775	59.605	31.532	1.00	78.99	L	C
ATOM 4592	OE1	GLN	L	144	23.083	59.023	30.699	1.00	26.20	L	O
ATOM 4593	NE2	GLN	L	144	24.986	59.190	31.858	1.00	26.20	L	N
ATOM 4594	C	GLN	L	144	23.276	62.717	35.011	1.00	43.19	L	C
ATOM 4595	O	GLN	L	144	23.541	61.721	35.685	1.00	38.27	L	O
ATOM 4596	N	ASP	L	145	22.428	63.654	35.435	1.00	33.58	L	N
ATOM 4597	CA	ASP	L	145	21.772	63.549	36.738	1.00	33.29	L	C
ATOM 4598	CB	ASP	L	145	20.934	64.792	37.047	1.00	39.82	L	C
ATOM 4599	CG	ASP	L	145	21.710	66.079	36.906	1.00	57.73	L	C
ATOM 4600	OD1	ASP	L	145	22.873	66.129	37.352	1.00	57.73	L	O
ATOM 4601	OD2	ASP	L	145	21.145	67.052	36.361	1.00	57.73	L	O
ATOM 4602	C	ASP	L	145	20.846	62.349	36.837	1.00	31.33	L	C
ATOM 4603	O	ASP	L	145	20.359	61.827	35.828	1.00	30.30	L	O
ATOM 4604	N	CYS	L	146	20.588	61.932	38.070	1.00	16.30	L	N
ATOM 4605	CA	CYS	L	146	19.695	60.810	38.330	1.00	15.87	L	C
ATOM 4606	CB	CYS	L	146	20.351	59.502	37.895	1.00	28.85	L	C
ATOM 4607	SG	CYS	L	146	21.945	59.220	38.696	1.00	40.17	L	S
ATOM 4608	C	CYS	L	146	19.337	60.730	39.812	1.00	17.24	L	C
ATOM 4609	O	CYS	L	146	20.121	61.115	40.673	1.00	15.16	L	O
ATOM 4610	N	LEU	L	147	18.146	60.225	40.098	1.00	22.28	L	N
ATOM 4611	CA	LEU	L	147	17.689	60.090	41.470	1.00	22.28	L	C
ATOM 4612	CB	LEU	L	147	16.745	61.235	41.820	1.00	20.33	L	C
ATOM 4613	CG	LEU	L	147	16.067	61.176	43.183	1.00	20.33	L	C
ATOM 4614	CD1	LEU	L	147	15.678	62.581	43.586	1.00	24.86	L	C
ATOM 4615	CD2	LEU	L	147	14.850	60.265	43.134	1.00	24.86	L	C
ATOM 4616	C	LEU	L	147	16.975	58.760	41.615	1.00	22.28	L	C
ATOM 4617	O	LEU	L	147	16.249	58.327	40.715	1.00	23.44	L	O

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Figure 8-71

ATOM 4618	N	GLN	L	148	17.173	58.113	42.754	1.00	28.12	L	N
ATOM 4619	CA	GLN	L	148	16.561	56.816	42.980	1.00	28.14	L	C
ATOM 4620	CB	GLN	L	148	17.613	55.722	42.799	1.00	17.58	L	C
ATOM 4621	CG	GLN	L	148	17.112	54.295	42.902	1.00	25.04	L	C
ATOM 4622	CD	GLN	L	148	18.182	53.290	42.483	1.00	25.04	L	C
ATOM 4623	OE1	GLN	L	148	18.260	52.887	41.319	1.00	25.04	L	O
ATOM 4624	NE2	GLN	L	148	19.029	52.902	43.430	1.00	25.04	L	N
ATOM 4625	C	GLN	L	148	15.922	56.689	44.350	1.00	29.26	L	C
ATOM 4626	O	GLN	L	148	16.496	57.095	45.359	1.00	29.77	L	O
ATOM 4627	N	LEU	L	149	14.726	56.115	44.366	1.00	29.43	L	N
ATOM 4628	CA	LEU	L	149	13.975	55.902	45.594	1.00	28.16	L	C
ATOM 4629	CB	LEU	L	149	12.573	56.511	45.456	1.00	21.45	L	C
ATOM 4630	CG	LEU	L	149	12.261	57.985	45.759	1.00	21.45	L	C
ATOM 4631	CD1	LEU	L	149	13.525	58.811	45.905	1.00	21.45	L	C
ATOM 4632	CD2	LEU	L	149	11.367	58.528	44.651	1.00	8.75	L	C
ATOM 4633	C	LEU	L	149	13.851	54.401	45.865	1.00	29.81	L	C
ATOM 4634	O	LEU	L	149	13.759	53.591	44.932	1.00	30.20	L	O
ATOM 4635	N	ILE	L	150	13.859	54.031	47.143	1.00	24.30	L	N
ATOM 4636	CA	ILE	L	150	13.710	52.627	47.522	1.00	23.17	L	C
ATOM 4637	CB	ILE	L	150	15.028	52.033	48.038	1.00	11.50	L	C
ATOM 4638	CG2	ILE	L	150	16.106	52.189	46.982	1.00	11.50	L	C
ATOM 4639	CG1	ILE	L	150	15.454	52.737	49.321	1.00	15.62	L	C
ATOM 4640	CD1	ILE	L	150	16.799	52.320	49.798	1.00	15.62	L	C
ATOM 4641	C	ILE	L	150	12.655	52.535	48.614	1.00	27.27	L	C
ATOM 4642	O	ILE	L	150	12.528	53.435	49.447	1.00	28.32	L	O
ATOM 4643	N	ALA	L	151	11.892	51.452	48.599	1.00	35.20	L	N
ATOM 4644	CA	ALA	L	151	10.832	51.256	49.572	1.00	35.20	L	C
ATOM 4645	CB	ALA	L	151	10.215	49.887	49.388	1.00	20.93	L	C
ATOM 4646	C	ALA	L	151	11.296	51.436	51.018	1.00	35.20	L	C
ATOM 4647	O	ALA	L	151	12.410	51.058	51.388	1.00	35.20	L	O
ATOM 4648	N	ASP	L	152	10.428	52.032	51.829	1.00	42.50	L	N
ATOM 4649	CA	ASP	L	152	10.713	52.266	53.235	1.00	42.50	L	C
ATOM 4650	CB	ASP	L	152	10.197	53.643	53.645	1.00	55.13	L	C
ATOM 4651	CG	ASP	L	152	10.400	53.926	55.112	1.00	55.13	L	C
ATOM 4652	OD1	ASP	L	152	9.883	54.954	55.594	1.00	55.13	L	O
ATOM 4653	OD2	ASP	L	152	11.078	53.122	55.781	1.00	55.13	L	O
ATOM 4654	C	ASP	L	152	9.998	51.185	54.034	1.00	42.50	L	C
ATOM 4655	O	ASP	L	152	8.796	51.273	54.277	1.00	42.50	L	O
ATOM 4656	N	SER	L	153	10.739	50.164	54.440	1.00	49.91	L	N
ATOM 4657	CA	SER	L	153	10.162	49.057	55.196	1.00	49.91	L	C
ATOM 4658	CB	SER	L	153	11.171	47.919	55.282	1.00	44.20	L	C
ATOM 4659	OG	SER	L	153	12.399	48.395	55.796	1.00	44.20	L	O
ATOM 4660	C	SER	L	153	9.737	49.452	56.602	1.00	49.91	L	C
ATOM 4661	O	SER	L	153	9.232	48.629	57.357	1.00	49.91	L	O
ATOM 4662	N	GLU	L	154	9.935	50.717	56.948	1.00	66.03	L	N
ATOM 4663	CA	GLU	L	154	9.595	51.209	58.275	1.00	66.03	L	C
ATOM 4664	CB	GLU	L	154	10.621	52.259	58.699	1.00	105.84	L	C
ATOM 4665	CG	GLU	L	154	11.012	52.175	60.146	1.00	105.84	L	C
ATOM 4666	CD	GLU	L	154	11.768	50.906	60.438	1.00	105.84	L	C
ATOM 4667	OE1	GLU	L	154	12.910	50.772	59.953	1.00	105.84	L	O
ATOM 4668	OE2	GLU	L	154	11.215	50.038	61.141	1.00	105.84	L	O
ATOM 4669	C	GLU	L	154	8.202	51.829	58.333	1.00	66.03	L	C
ATOM 4670	O	GLU	L	154	7.591	51.906	59.399	1.00	66.03	L	O
ATOM 4671	N	THR	L	155	7.704	52.268	57.182	1.00	45.66	L	N
ATOM 4672	CA	THR	L	155	6.405	52.922	57.108	1.00	45.66	L	C
ATOM 4673	CB	THR	L	155	6.532	54.252	56.375	1.00	42.85	L	C
ATOM 4674	OG1	THR	L	155	7.475	55.075	57.068	1.00	42.85	L	O
ATOM 4675	CG2	THR	L	155	5.179	54.957	56.280	1.00	42.85	L	C
ATOM 4676	C	THR	L	155	5.329	52.123	56.401	1.00	45.66	L	C
ATOM 4677	O	THR	L	155	5.601	51.410	55.445	1.00	45.66	L	O
ATOM 4678	N	PRO	L	156	4.079	52.239	56.867	1.00	49.78	L	N
ATOM 4679	CD	PRO	L	156	3.598	52.968	58.051	1.00	51.19	L	C
ATOM 4680	CA	PRO	L	156	2.984	51.508	56.231	1.00	49.78	L	C
ATOM 4681	CB	PRO	L	156	1.843	51.686	57.224	1.00	51.19	L	C
ATOM 4682	CG	PRO	L	156	2.119	53.046	57.784	1.00	51.19	L	C
ATOM 4683	C	PRO	L	156	2.668	52.116	54.862	1.00	49.78	L	C

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Figure 8-72

ATOM 4684	O	PRO	L 156	2.897	53.302	54.628	1.00	49.78	L	O
ATOM 4685	N	THR	L 157	2.143	51.296	53.964	1.00	44.38	L	N
ATOM 4686	CA	THR	L 157	1.810	51.763	52.631	1.00	44.38	L	C
ATOM 4687	CB	THR	L 157	1.284	50.625	51.767	1.00	32.48	L	C
ATOM 4688	OG1	THR	L 157	-0.001	50.214	52.247	1.00	32.48	L	O
ATOM 4689	CG2	THR	L 157	2.249	49.448	51.826	1.00	32.48	L	C
ATOM 4690	C	THR	L 157	0.749	52.837	52.724	1.00	44.38	L	C
ATOM 4691	O	THR	L 157	-0.102	52.790	53.600	1.00	44.38	L	O
ATOM 4692	N	ILE	L 158	0.805	53.796	51.806	1.00	60.45	L	N
ATOM 4693	CA	ILE	L 158	-0.134	54.907	51.778	1.00	60.45	L	C
ATOM 4694	CB	ILE	L 158	0.521	56.135	51.154	1.00	46.47	L	C
ATOM 4695	CG2	ILE	L 158	-0.421	57.316	51.229	1.00	46.47	L	C
ATOM 4696	CG1	ILE	L 158	1.832	56.440	51.874	1.00	46.47	L	C
ATOM 4697	CD1	ILE	L 158	2.603	57.581	51.258	1.00	46.47	L	C
ATOM 4698	C	ILE	L 158	-1.398	54.604	50.989	1.00	60.45	L	C
ATOM 4699	O	ILE	L 158	-1.328	54.150	49.851	1.00	60.45	L	O
ATOM 4700	N	GLN	L 159	-2.551	54.866	51.596	1.00	65.33	L	N
ATOM 4701	CA	GLN	L 159	-3.837	54.646	50.940	1.00	65.33	L	C
ATOM 4702	CB	GLN	L 159	-4.798	53.964	51.898	1.00	63.36	L	C
ATOM 4703	CG	GLN	L 159	-4.294	52.622	52.332	1.00	63.36	L	C
ATOM 4704	CD	GLN	L 159	-4.065	51.705	51.156	1.00	63.36	L	C
ATOM 4705	OE1	GLN	L 159	-3.203	50.833	51.205	1.00	63.36	L	O
ATOM 4706	NE2	GLN	L 159	-4.843	51.889	50.092	1.00	63.36	L	N
ATOM 4707	C	GLN	L 159	-4.399	55.990	50.510	1.00	65.33	L	C
ATOM 4708	O	GLN	L 159	-4.434	56.929	51.299	1.00	65.33	L	O
ATOM 4709	N	LYS	L 160	-4.845	56.089	49.264	1.00	84.51	L	N
ATOM 4710	CA	LYS	L 160	-5.359	57.359	48.782	1.00	84.51	L	C
ATOM 4711	CB	LYS	L 160	-4.195	58.348	48.655	1.00	95.98	L	C
ATOM 4712	CG	LYS	L 160	-4.578	59.757	48.262	1.00	69.36	L	C
ATOM 4713	CD	LYS	L 160	-3.354	60.664	48.300	1.00	69.36	L	C
ATOM 4714	CE	LYS	L 160	-3.722	62.121	48.037	1.00	69.36	L	C
ATOM 4715	NZ	LYS	L 160	-2.539	63.027	48.142	1.00	69.36	L	N
ATOM 4716	C	LYS	L 160	-6.062	57.208	47.446	1.00	84.51	L	C
ATOM 4717	O	LYS	L 160	-5.456	56.794	46.463	1.00	84.51	L	O
ATOM 4718	N	GLY	L 161	-7.347	57.541	47.418	1.00	102.52	L	N
ATOM 4719	CA	GLY	L 161	-8.109	57.451	46.187	1.00	102.52	L	C
ATOM 4720	C	GLY	L 161	-8.205	56.057	45.600	1.00	102.52	L	C
ATOM 4721	O	GLY	L 161	-8.060	55.879	44.389	1.00	102.52	L	O
ATOM 4722	N	SER	L 162	-8.449	55.070	46.455	1.00	51.52	L	N
ATOM 4723	CA	SER	L 162	-8.575	53.681	46.014	1.00	51.52	L	C
ATOM 4724	CB	SER	L 162	-9.651	53.569	44.928	1.00	126.13	L	C
ATOM 4725	OG	SER	L 162	-9.863	52.218	44.556	1.00	126.13	L	O
ATOM 4726	C	SER	L 162	-7.253	53.097	45.497	1.00	51.52	L	C
ATOM 4727	O	SER	L 162	-7.176	51.919	45.148	1.00	51.52	L	O
ATOM 4728	N	TYR	L 163	-6.221	53.932	45.429	1.00	45.85	L	N
ATOM 4729	CA	TYR	L 163	-4.907	53.486	44.993	1.00	45.85	L	C
ATOM 4730	CB	TYR	L 163	-4.192	54.557	44.164	1.00	71.99	L	C
ATOM 4731	CG	TYR	L 163	-4.598	54.678	42.716	1.00	71.99	L	C
ATOM 4732	CD1	TYR	L 163	-5.331	53.681	42.081	1.00	71.99	L	C
ATOM 4733	CE1	TYR	L 163	-5.663	53.784	40.730	1.00	71.99	L	C
ATOM 4734	CD2	TYR	L 163	-4.204	55.786	41.965	1.00	71.99	L	C
ATOM 4735	CE2	TYR	L 163	-4.526	55.901	40.616	1.00	71.99	L	C
ATOM 4736	CZ	TYR	L 163	-5.257	54.896	40.003	1.00	71.99	L	C
ATOM 4737	OH	TYR	L 163	-5.580	55.010	38.666	1.00	71.99	L	O
ATOM 4738	C	TYR	L 163	-4.081	53.253	46.250	1.00	45.85	L	C
ATOM 4739	O	TYR	L 163	-4.516	53.561	47.359	1.00	45.85	L	O
ATOM 4740	N	THR	L 164	-2.882	52.717	46.062	1.00	29.42	L	N
ATOM 4741	CA	THR	L 164	-1.963	52.476	47.160	1.00	29.42	L	C
ATOM 4742	CB	THR	L 164	-2.020	51.013	47.622	1.00	56.26	L	C
ATOM 4743	OG1	THR	L 164	-0.935	50.751	48.521	1.00	56.26	L	O
ATOM 4744	CG2	THR	L 164	-1.949	50.092	46.440	1.00	56.26	L	C
ATOM 4745	C	THR	L 164	-0.555	52.841	46.694	1.00	29.42	L	C
ATOM 4746	O	THR	L 164	-0.088	52.384	45.647	1.00	29.42	L	O
ATOM 4747	N	PHE	L 165	0.105	53.690	47.473	1.00	48.05	L	N
ATOM 4748	CA	PHE	L 165	1.442	54.159	47.150	1.00	48.05	L	C
ATOM 4749	CB	PHE	L 165	1.460	55.683	47.140	1.00	43.44	L	C

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Figure 8-73

ATOM 4750	CG	PHE	L	165	0.422	56.282	46.253	1.00	43.44	L	C
ATOM 4751	CD1	PHE	L	165	-0.906	56.334	46.657	1.00	43.44	L	C
ATOM 4752	CD2	PHE	L	165	0.760	56.749	44.989	1.00	43.44	L	C
ATOM 4753	CE1	PHE	L	165	-1.881	56.838	45.815	1.00	43.44	L	C
ATOM 4754	CE2	PHE	L	165	-0.205	57.256	44.134	1.00	43.44	L	C
ATOM 4755	CZ	PHE	L	165	-1.529	57.301	44.544	1.00	43.44	L	C
ATOM 4756	C	PHE	L	165	2.462	53.647	48.141	1.00	48.05	L	C
ATOM 4757	O	PHE	L	165	2.180	53.534	49.326	1.00	48.05	L	O
ATOM 4758	N	VAL	L	166	3.656	53.337	47.659	1.00	42.66	L	N
ATOM 4759	CA	VAL	L	166	4.683	52.841	48.551	1.00	42.66	L	C
ATOM 4760	CB	VAL	L	166	5.683	51.870	47.831	1.00	21.07	L	C
ATOM 4761	CG1	VAL	L	166	5.218	51.578	46.425	1.00	21.07	L	C
ATOM 4762	CG2	VAL	L	166	7.094	52.438	47.843	1.00	21.07	L	C
ATOM 4763	C	VAL	L	166	5.444	54.008	49.142	1.00	42.66	L	C
ATOM 4764	O	VAL	L	166	5.666	55.022	48.477	1.00	42.66	L	O
ATOM 4765	N	PRO	L	167	5.835	53.882	50.417	1.00	33.70	L	N
ATOM 4766	CD	PRO	L	167	5.451	52.782	51.313	1.00	30.48	L	C
ATOM 4767	CA	PRO	L	167	6.585	54.903	51.150	1.00	33.70	L	C
ATOM 4768	CB	PRO	L	167	6.545	54.396	52.590	1.00	30.48	L	C
ATOM 4769	CG	PRO	L	167	5.358	53.488	52.627	1.00	30.48	L	C
ATOM 4770	C	PRO	L	167	8.003	54.893	50.606	1.00	33.70	L	C
ATOM 4771	O	PRO	L	167	8.681	53.876	50.699	1.00	33.70	L	O
ATOM 4772	N	TRP	L	168	8.454	56.005	50.040	1.00	34.51	L	N
ATOM 4773	CA	TRP	L	168	9.800	56.046	49.493	1.00	35.74	L	C
ATOM 4774	CB	TRP	L	168	9.837	56.843	48.186	1.00	30.73	L	C
ATOM 4775	CG	TRP	L	168	9.022	56.243	47.112	1.00	24.99	L	C
ATOM 4776	CD2	TRP	L	168	9.171	54.935	46.547	1.00	25.56	L	C
ATOM 4777	CE2	TRP	L	168	8.146	54.778	45.588	1.00	24.95	L	C
ATOM 4778	CE3	TRP	L	168	10.067	53.877	46.758	1.00	26.69	L	C
ATOM 4779	CD1	TRP	L	168	7.958	56.810	46.495	1.00	27.84	L	C
ATOM 4780	NE1	TRP	L	168	7.422	55.940	45.581	1.00	30.82	L	N
ATOM 4781	CZ2	TRP	L	168	7.988	53.600	44.832	1.00	24.71	L	C
ATOM 4782	CZ3	TRP	L	168	9.913	52.700	46.006	1.00	30.45	L	C
ATOM 4783	CH2	TRP	L	168	8.878	52.577	45.057	1.00	28.66	L	C
ATOM 4784	C	TRP	L	168	10.818	56.628	50.448	1.00	36.05	L	C
ATOM 4785	O	TRP	L	168	10.517	57.492	51.264	1.00	37.71	L	O
ATOM 4786	N	LEU	L	169	12.036	56.130	50.319	1.00	53.15	L	N
ATOM 4787	CA	LEU	L	169	13.161	56.577	51.112	1.00	53.62	L	C
ATOM 4788	CB	LEU	L	169	13.631	55.433	51.993	1.00	42.48	L	C
ATOM 4789	CG	LEU	L	169	13.867	55.781	53.454	1.00	42.48	L	C
ATOM 4790	CD1	LEU	L	169	13.857	54.510	54.265	1.00	42.48	L	C
ATOM 4791	CD2	LEU	L	169	15.187	56.523	53.599	1.00	42.48	L	C
ATOM 4792	C	LEU	L	169	14.199	56.911	50.047	1.00	54.25	L	C
ATOM 4793	O	LEU	L	169	14.396	56.134	49.108	1.00	52.60	L	O
ATOM 4794	N	LEU	L	170	14.850	58.061	50.164	1.00	38.94	L	N
ATOM 4795	CA	LEU	L	170	15.824	58.444	49.149	1.00	38.94	L	C
ATOM 4796	CB	LEU	L	170	16.272	59.894	49.333	1.00	24.69	L	C
ATOM 4797	CG	LEU	L	170	17.375	60.291	48.344	1.00	24.69	L	C
ATOM 4798	CD1	LEU	L	170	16.785	60.364	46.934	1.00	24.69	L	C
ATOM 4799	CD2	LEU	L	170	17.974	61.614	48.728	1.00	24.69	L	C
ATOM 4800	C	LEU	L	170	17.063	57.570	49.114	1.00	38.94	L	C
ATOM 4801	O	LEU	L	170	17.880	57.608	50.030	1.00	39.69	L	O
ATOM 4802	N	SER	L	171	17.205	56.792	48.046	1.00	35.53	L	N
ATOM 4803	CA	SER	L	171	18.377	55.936	47.888	1.00	35.54	L	C
ATOM 4804	CB	SER	L	171	18.207	55.010	46.681	1.00	44.88	L	C
ATOM 4805	OG	SER	L	171	19.440	54.420	46.315	1.00	44.88	L	O
ATOM 4806	C	SER	L	171	19.562	56.863	47.666	1.00	33.93	L	C
ATOM 4807	O	SER	L	171	20.556	56.792	48.371	1.00	33.63	L	O
ATOM 4808	N	PHE	L	172	19.447	57.736	46.677	1.00	35.12	L	N
ATOM 4809	CA	PHE	L	172	20.502	58.687	46.388	1.00	31.64	L	C
ATOM 4810	CB	PHE	L	172	21.740	57.967	45.856	1.00	53.75	L	C
ATOM 4811	CG	PHE	L	172	21.658	57.617	44.409	1.00	32.41	L	C
ATOM 4812	CD1	PHE	L	172	21.876	58.592	43.436	1.00	32.41	L	C
ATOM 4813	CD2	PHE	L	172	21.311	56.333	44.010	1.00	32.41	L	C
ATOM 4814	CE1	PHE	L	172	21.742	58.293	42.077	1.00	32.41	L	C
ATOM 4815	CE2	PHE	L	172	21.175	56.020	42.662	1.00	32.41	L	C

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Figure 8-74

ATOM 4816	CZ	PHE	L	172	21.388	57.001	41.688	1.00	32.41	L	C
ATOM 4817	C	PHE	L	172	19.987	59.690	45.363	1.00	33.18	L	C
ATOM 4818	O	PHE	L	172	19.082	59.388	44.570	1.00	33.97	L	O
ATOM 4819	N	LYS	L	173	20.559	60.887	45.397	1.00	32.68	L	N
ATOM 4820	CA	LYS	L	173	20.184	61.953	44.484	1.00	31.72	L	C
ATOM 4821	CB	LYS	L	173	19.494	63.087	45.251	1.00	37.32	L	C
ATOM 4822	CG	LYS	L	173	19.307	64.378	44.476	1.00	56.32	L	C
ATOM 4823	CD	LYS	L	173	18.757	65.471	45.385	1.00	56.32	L	C
ATOM 4824	CE	LYS	L	173	18.520	66.768	44.633	1.00	56.32	L	C
ATOM 4825	NZ	LYS	L	173	19.775	67.282	44.033	1.00	56.32	L	N
ATOM 4826	C	LYS	L	173	21.499	62.420	43.910	1.00	33.50	L	C
ATOM 4827	O	LYS	L	173	22.460	62.619	44.641	1.00	34.99	L	O
ATOM 4828	N	ARG	L	174	21.557	62.569	42.600	1.00	38.61	L	N
ATOM 4829	CA	ARG	L	174	22.786	63.006	41.968	1.00	38.61	L	C
ATOM 4830	CB	ARG	L	174	23.478	61.823	41.300	1.00	27.67	L	C
ATOM 4831	CG	ARG	L	174	24.809	62.171	40.672	1.00	27.67	L	C
ATOM 4832	CD	ARG	L	174	25.233	61.113	39.680	1.00	27.67	L	C
ATOM 4833	NE	ARG	L	174	26.551	61.388	39.125	1.00	27.67	L	N
ATOM 4834	CZ	ARG	L	174	26.921	61.045	37.898	1.00	27.67	L	C
ATOM 4835	NH1	ARG	L	174	26.073	60.421	37.098	1.00	27.67	L	N
ATOM 4836	NH2	ARG	L	174	28.140	61.316	37.469	1.00	27.67	L	N
ATOM 4837	C	ARG	L	174	22.473	64.065	40.930	1.00	38.61	L	C
ATOM 4838	O	ARG	L	174	21.838	63.780	39.910	1.00	38.61	L	O
ATOM 4839	N	GLY	L	175	22.898	65.294	41.196	1.00	40.88	L	N
ATOM 4840	CA	GLY	L	175	22.645	66.360	40.250	1.00	40.88	L	C
ATOM 4841	C	GLY	L	175	21.535	67.325	40.622	1.00	40.88	L	C
ATOM 4842	O	GLY	L	175	20.871	67.177	41.649	1.00	40.88	L	O
ATOM 4843	N	SER	L	176	21.331	68.312	39.751	1.00	41.52	L	N
ATOM 4844	CA	SER	L	176	20.338	69.361	39.936	1.00	41.52	L	C
ATOM 4845	CB	SER	L	176	20.760	70.601	39.153	1.00	79.93	L	C
ATOM 4846	OG	SER	L	176	21.171	70.250	37.843	1.00	79.93	L	O
ATOM 4847	C	SER	L	176	18.933	68.956	39.541	1.00	41.52	L	C
ATOM 4848	O	SER	L	176	18.017	69.082	40.338	1.00	41.52	L	O
ATOM 4849	N	ALA	L	177	18.755	68.486	38.311	1.00	54.02	L	N
ATOM 4850	CA	ALA	L	177	17.435	68.061	37.856	1.00	54.02	L	C
ATOM 4851	CB	ALA	L	177	17.495	67.622	36.421	1.00	21.74	L	C
ATOM 4852	C	ALA	L	177	17.029	66.894	38.718	1.00	54.02	L	C
ATOM 4853	O	ALA	L	177	17.888	66.181	39.237	1.00	54.02	L	O
ATOM 4854	N	LEU	L	178	15.731	66.683	38.885	1.00	29.32	L	N
ATOM 4855	CA	LEU	L	178	15.293	65.558	39.703	1.00	29.32	L	C
ATOM 4856	CB	LEU	L	178	15.894	64.261	39.160	1.00	46.71	L	C
ATOM 4857	CG	LEU	L	178	15.134	63.406	38.148	1.00	27.78	L	C
ATOM 4858	CD1	LEU	L	178	14.276	64.258	37.238	1.00	27.78	L	C
ATOM 4859	CD2	LEU	L	178	16.148	62.592	37.365	1.00	27.78	L	C
ATOM 4860	C	LEU	L	178	15.650	65.659	41.186	1.00	29.32	L	C
ATOM 4861	O	LEU	L	178	16.819	65.678	41.550	1.00	29.32	L	O
ATOM 4862	N	GLU	L	179	14.629	65.729	42.030	1.00	32.03	L	N
ATOM 4863	CA	GLU	L	179	14.799	65.757	43.472	1.00	32.03	L	C
ATOM 4864	CB	GLU	L	179	15.095	67.169	43.987	1.00	113.04	L	C
ATOM 4865	CG	GLU	L	179	14.104	68.237	43.606	1.00	62.24	L	C
ATOM 4866	CD	GLU	L	179	14.582	69.633	44.008	1.00	62.24	L	C
ATOM 4867	OE1	GLU	L	179	15.648	70.069	43.511	1.00	62.24	L	O
ATOM 4868	OE2	GLU	L	179	13.897	70.295	44.820	1.00	62.24	L	O
ATOM 4869	C	GLU	L	179	13.493	65.203	44.014	1.00	32.03	L	C
ATOM 4870	O	GLU	L	179	12.490	65.185	43.301	1.00	32.03	L	O
ATOM 4871	N	GLU	L	180	13.500	64.704	45.246	1.00	48.70	L	N
ATOM 4872	CA	GLU	L	180	12.290	64.121	45.819	1.00	48.70	L	C
ATOM 4873	CB	GLU	L	180	12.666	63.093	46.889	1.00	48.83	L	C
ATOM 4874	CG	GLU	L	180	11.501	62.570	47.704	1.00	48.83	L	C
ATOM 4875	CD	GLU	L	180	11.932	61.519	48.706	1.00	48.83	L	C
ATOM 4876	OE1	GLU	L	180	13.035	61.668	49.278	1.00	58.62	L	O
ATOM 4877	OE2	GLU	L	180	11.171	60.550	48.933	1.00	58.62	L	O
ATOM 4878	C	GLU	L	180	11.359	65.177	46.397	1.00	48.70	L	C
ATOM 4879	O	GLU	L	180	11.751	65.951	47.264	1.00	48.70	L	O
ATOM 4880	N	LYS	L	181	10.123	65.201	45.908	1.00	70.70	L	N
ATOM 4881	CA	LYS	L	181	9.131	66.164	46.370	1.00	70.70	L	C

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Figure 8-75

ATOM 4882	CB	LYS	L	181	8.185	66.534	45.230	1.00	83.32	L	C
ATOM 4883	CG	LYS	L	181	7.147	67.589	45.576	1.00	83.32	L	C
ATOM 4884	CD	LYS	L	181	7.778	68.952	45.738	1.00	83.32	L	C
ATOM 4885	CE	LYS	L	181	6.710	70.025	45.829	1.00	83.32	L	C
ATOM 4886	NZ	LYS	L	181	7.294	71.394	45.747	1.00	83.32	L	N
ATOM 4887	C	LYS	L	181	8.329	65.594	47.529	1.00	70.70	L	C
ATOM 4888	O	LYS	L	181	8.831	65.463	48.644	1.00	70.70	L	O
ATOM 4889	N	GLU	L	182	7.078	65.247	47.267	1.00	44.20	L	N
ATOM 4890	CA	GLU	L	182	6.236	64.712	48.318	1.00	44.20	L	C
ATOM 4891	CB	GLU	L	182	4.915	65.469	48.358	1.00	80.31	L	C
ATOM 4892	CG	GLU	L	182	5.101	66.964	48.373	1.00	80.31	L	C
ATOM 4893	CD	GLU	L	182	3.793	67.704	48.412	1.00	80.31	L	C
ATOM 4894	OE1	GLU	L	182	3.150	67.702	49.482	1.00	80.31	L	O
ATOM 4895	OE2	GLU	L	182	3.408	68.277	47.372	1.00	80.31	L	O
ATOM 4896	C	GLU	L	182	6.003	63.242	48.045	1.00	44.20	L	C
ATOM 4897	O	GLU	L	182	4.908	62.829	47.673	1.00	44.20	L	O
ATOM 4898	N	ASN	L	183	7.054	62.459	48.240	1.00	47.47	L	N
ATOM 4899	CA	ASN	L	183	7.011	61.029	48.008	1.00	47.47	L	C
ATOM 4900	CB	ASN	L	183	5.841	60.386	48.740	1.00	49.25	L	C
ATOM 4901	CG	ASN	L	183	5.985	58.885	48.831	1.00	49.25	L	C
ATOM 4902	OD1	ASN	L	183	6.939	58.379	49.436	1.00	49.25	L	O
ATOM 4903	ND2	ASN	L	183	5.049	58.160	48.222	1.00	49.25	L	N
ATOM 4904	C	ASN	L	183	6.903	60.745	46.518	1.00	47.47	L	C
ATOM 4905	O	ASN	L	183	6.459	59.670	46.100	1.00	47.47	L	O
ATOM 4906	N	LYS	L	184	7.303	61.727	45.718	1.00	20.98	L	N
ATOM 4907	CA	LYS	L	184	7.287	61.575	44.277	1.00	20.98	L	C
ATOM 4908	CB	LYS	L	184	6.007	62.167	43.673	1.00	55.41	L	C
ATOM 4909	CG	LYS	L	184	5.276	63.164	44.542	1.00	55.41	L	C
ATOM 4910	CD	LYS	L	184	3.897	63.445	43.963	1.00	55.41	L	C
ATOM 4911	CE	LYS	L	184	3.137	64.469	44.791	1.00	55.41	L	C
ATOM 4912	NZ	LYS	L	184	1.828	64.813	44.167	1.00	55.41	L	N
ATOM 4913	C	LYS	L	184	8.521	62.238	43.713	1.00	20.98	L	C
ATOM 4914	O	LYS	L	184	9.164	63.022	44.398	1.00	20.98	L	O
ATOM 4915	N	ILE	L	185	8.875	61.902	42.480	1.00	19.00	L	N
ATOM 4916	CA	ILE	L	185	10.054	62.483	41.857	1.00	17.49	L	C
ATOM 4917	CB	ILE	L	185	10.659	61.531	40.821	1.00	18.67	L	C
ATOM 4918	CG2	ILE	L	185	11.827	62.215	40.126	1.00	18.67	L	C
ATOM 4919	CG1	ILE	L	185	11.102	60.232	41.507	1.00	18.67	L	C
ATOM 4920	CD1	ILE	L	185	11.548	59.141	40.555	1.00	18.67	L	C
ATOM 4921	C	ILE	L	185	9.665	63.766	41.164	1.00	17.95	L	C
ATOM 4922	O	ILE	L	185	8.758	63.776	40.325	1.00	21.14	L	O
ATOM 4923	N	LEU	L	186	10.348	64.849	41.523	1.00	17.93	L	N
ATOM 4924	CA	LEU	L	186	10.082	66.164	40.928	1.00	17.13	L	C
ATOM 4925	CB	LEU	L	186	10.056	67.238	42.019	1.00	30.97	L	C
ATOM 4926	CG	LEU	L	186	9.990	68.679	41.502	1.00	30.97	L	C
ATOM 4927	CD1	LEU	L	186	8.779	68.853	40.578	1.00	30.97	L	C
ATOM 4928	CD2	LEU	L	186	9.920	69.627	42.676	1.00	30.97	L	C
ATOM 4929	C	LEU	L	186	11.108	66.560	39.859	1.00	14.27	L	C
ATOM 4930	O	LEU	L	186	12.306	66.629	40.138	1.00	21.20	L	O
ATOM 4931	N	VAL	L	187	10.632	66.830	38.645	1.00	26.37	L	N
ATOM 4932	CA	VAL	L	187	11.519	67.225	37.550	1.00	27.87	L	C
ATOM 4933	CB	VAL	L	187	10.852	67.042	36.181	1.00	35.10	L	C
ATOM 4934	CG1	VAL	L	187	11.783	67.551	35.092	1.00	33.15	L	C
ATOM 4935	CG2	VAL	L	187	10.521	65.580	35.955	1.00	42.16	L	C
ATOM 4936	C	VAL	L	187	11.898	68.687	37.683	1.00	30.08	L	C
ATOM 4937	O	VAL	L	187	11.024	69.547	37.730	1.00	32.40	L	O
ATOM 4938	N	LYS	L	188	13.196	68.969	37.736	1.00	31.48	L	N
ATOM 4939	CA	LYS	L	188	13.644	70.347	37.878	1.00	33.37	L	C
ATOM 4940	CB	LYS	L	188	14.704	70.445	38.982	1.00	53.94	L	C
ATOM 4941	CG	LYS	L	188	14.128	70.625	40.377	1.00	57.92	L	C
ATOM 4942	CD	LYS	L	188	13.404	71.954	40.473	1.00	63.21	L	C
ATOM 4943	CE	LYS	L	188	12.616	72.092	41.766	1.00	68.17	L	C
ATOM 4944	NZ	LYS	L	188	13.478	72.164	42.975	1.00	53.34	L	N
ATOM 4945	C	LYS	L	188	14.170	70.962	36.581	1.00	31.18	L	C
ATOM 4946	O	LYS	L	188	14.248	72.181	36.459	1.00	33.76	L	O
ATOM 4947	N	GLU	L	189	14.537	70.119	35.621	1.00	53.76	L	N

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Figure 8-76

ATOM 4948	CA	GLU	L	189	15.049	70.593	34.339	1.00	56.45	L	C
ATOM 4949	CB	GLU	L	189	16.556	70.399	34.241	1.00	66.74	L	C
ATOM 4950	CG	GLU	L	189	17.334	71.008	35.368	1.00	66.74	L	C
ATOM 4951	CD	GLU	L	189	18.813	70.746	35.233	1.00	66.74	L	C
ATOM 4952	OE1	GLU	L	189	19.570	71.140	36.143	1.00	66.74	L	O
ATOM 4953	OE2	GLU	L	189	19.217	70.146	34.213	1.00	66.74	L	O
ATOM 4954	C	GLU	L	189	14.390	69.785	33.245	1.00	53.97	L	C
ATOM 4955	O	GLU	L	189	14.577	68.574	33.153	1.00	54.53	L	O
ATOM 4956	N	THR	L	190	13.617	70.452	32.406	1.00	36.96	L	N
ATOM 4957	CA	THR	L	190	12.937	69.756	31.331	1.00	38.53	L	C
ATOM 4958	CB	THR	L	190	12.032	70.722	30.562	1.00	36.74	L	C
ATOM 4959	OG1	THR	L	190	12.202	70.511	29.162	1.00	36.74	L	O
ATOM 4960	CG2	THR	L	190	12.360	72.159	30.918	1.00	36.74	L	C
ATOM 4961	C	THR	L	190	13.947	69.086	30.400	1.00	37.01	L	C
ATOM 4962	O	THR	L	190	15.012	69.638	30.129	1.00	37.66	L	O
ATOM 4963	N	GLY	L	191	13.608	67.881	29.942	1.00	26.55	L	N
ATOM 4964	CA	GLY	L	191	14.486	67.115	29.067	1.00	28.00	L	C
ATOM 4965	C	GLY	L	191	14.028	65.668	28.921	1.00	28.20	L	C
ATOM 4966	O	GLY	L	191	12.885	65.341	29.240	1.00	30.91	L	O
ATOM 4967	N	TYR	L	192	14.905	64.795	28.431	1.00	24.22	L	N
ATOM 4968	CA	TYR	L	192	14.548	63.390	28.254	1.00	23.76	L	C
ATOM 4969	CB	TYR	L	192	15.156	62.826	26.964	1.00	34.37	L	C
ATOM 4970	CG	TYR	L	192	14.491	63.337	25.717	1.00	34.37	L	C
ATOM 4971	CD1	TYR	L	192	14.786	64.597	25.224	1.00	34.37	L	C
ATOM 4972	CE1	TYR	L	192	14.132	65.104	24.112	1.00	34.37	L	C
ATOM 4973	CD2	TYR	L	192	13.520	62.583	25.061	1.00	34.37	L	C
ATOM 4974	CE2	TYR	L	192	12.853	63.080	23.946	1.00	34.37	L	C
ATOM 4975	CZ	TYR	L	192	13.165	64.345	23.478	1.00	34.37	L	C
ATOM 4976	OH	TYR	L	192	12.503	64.875	22.394	1.00	34.37	L	O
ATOM 4977	C	TYR	L	192	15.017	62.569	29.441	1.00	22.00	L	C
ATOM 4978	O	TYR	L	192	16.141	62.730	29.914	1.00	23.05	L	O
ATOM 4979	N	PHE	L	193	14.156	61.681	29.921	1.00	36.86	L	N
ATOM 4980	CA	PHE	L	193	14.509	60.857	31.061	1.00	36.86	L	C
ATOM 4981	CB	PHE	L	193	13.815	61.361	32.328	1.00	24.51	L	C
ATOM 4982	CG	PHE	L	193	14.196	62.763	32.735	1.00	24.51	L	C
ATOM 4983	CD1	PHE	L	193	13.703	63.870	32.044	1.00	24.51	L	C
ATOM 4984	CD2	PHE	L	193	15.025	62.977	33.840	1.00	24.51	L	C
ATOM 4985	CE1	PHE	L	193	14.031	65.170	32.455	1.00	24.51	L	C
ATOM 4986	CE2	PHE	L	193	15.355	64.265	34.256	1.00	24.51	L	C
ATOM 4987	CZ	PHE	L	193	14.859	65.362	33.565	1.00	24.51	L	C
ATOM 4988	C	PHE	L	193	14.175	59.384	30.905	1.00	36.86	L	C
ATOM 4989	O	PHE	L	193	13.150	59.001	30.319	1.00	36.86	L	O
ATOM 4990	N	PHE	L	194	15.066	58.563	31.447	1.00	12.19	L	N
ATOM 4991	CA	PHE	L	194	14.894	57.120	31.458	1.00	12.67	L	C
ATOM 4992	CB	PHE	L	194	16.249	56.411	31.400	1.00	12.86	L	C
ATOM 4993	CG	PHE	L	194	16.157	54.932	31.573	1.00	12.86	L	C
ATOM 4994	CD1	PHE	L	194	15.555	54.137	30.604	1.00	12.86	L	C
ATOM 4995	CD2	PHE	L	194	16.641	54.328	32.728	1.00	12.86	L	C
ATOM 4996	CE1	PHE	L	194	15.434	52.758	30.788	1.00	12.86	L	C
ATOM 4997	CE2	PHE	L	194	16.529	52.952	32.927	1.00	12.86	L	C
ATOM 4998	CZ	PHE	L	194	15.924	52.165	31.957	1.00	12.86	L	C
ATOM 4999	C	PHE	L	194	14.248	56.914	32.815	1.00	13.06	L	C
ATOM 5000	O	PHE	L	194	14.822	57.295	33.833	1.00	15.18	L	O
ATOM 5001	N	ILE	L	195	13.048	56.348	32.824	1.00	26.54	L	N
ATOM 5002	CA	ILE	L	195	12.319	56.136	34.066	1.00	23.75	L	C
ATOM 5003	CB	ILE	L	195	10.966	56.862	34.028	1.00	24.72	L	C
ATOM 5004	CG2	ILE	L	195	10.291	56.764	35.376	1.00	24.72	L	C
ATOM 5005	CG1	ILE	L	195	11.180	58.325	33.638	1.00	24.72	L	C
ATOM 5006	CD1	ILE	L	195	9.903	59.105	33.410	1.00	24.72	L	C
ATOM 5007	C	ILE	L	195	12.063	54.659	34.288	1.00	22.72	L	C
ATOM 5008	O	ILE	L	195	11.637	53.955	33.376	1.00	21.34	L	O
ATOM 5009	N	TYR	L	196	12.312	54.189	35.504	1.00	18.54	L	N
ATOM 5010	CA	TYR	L	196	12.103	52.780	35.827	1.00	23.07	L	C
ATOM 5011	CB	TYR	L	196	13.428	52.025	35.781	1.00	25.76	L	C
ATOM 5012	CG	TYR	L	196	14.474	52.607	36.707	1.00	20.65	L	C
ATOM 5013	CD1	TYR	L	196	15.201	53.743	36.346	1.00	23.96	L	C

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Figure 8-77

ATOM 5014	CE1	TYR	L	196	16.149	54.299	37.206	1.00	22.32	L	C
ATOM 5015	CD2	TYR	L	196	14.719	52.040	37.956	1.00	24.10	L	C
ATOM 5016	CE2	TYR	L	196	15.657	52.590	38.824	1.00	27.27	L	C
ATOM 5017	CZ	TYR	L	196	16.370	53.717	38.443	1.00	23.38	L	C
ATOM 5018	OH	TYR	L	196	17.306	54.266	39.294	1.00	23.61	L	O
ATOM 5019	C	TYR	L	196	11.485	52.598	37.204	1.00	24.32	L	C
ATOM 5020	O	TYR	L	196	11.722	53.386	38.120	1.00	21.53	L	O
ATOM 5021	N	GLY	L	197	10.703	51.537	37.344	1.00	29.54	L	N
ATOM 5022	CA	GLY	L	197	10.058	51.258	38.610	1.00	28.36	L	C
ATOM 5023	C	GLY	L	197	9.738	49.785	38.748	1.00	29.11	L	C
ATOM 5024	O	GLY	L	197	9.274	49.146	37.801	1.00	27.45	L	O
ATOM 5025	N	GLN	L	198	10.003	49.241	39.930	1.00	28.21	L	N
ATOM 5026	CA	GLN	L	198	9.734	47.840	40.198	1.00	30.90	L	C
ATOM 5027	CB	GLN	L	198	11.019	47.015	40.097	1.00	29.99	L	C
ATOM 5028	CG	GLN	L	198	10.873	45.596	40.646	1.00	33.09	L	C
ATOM 5029	CD	GLN	L	198	12.157	44.812	40.587	1.00	36.35	L	C
ATOM 5030	OE1	GLN	L	198	12.702	44.587	39.509	1.00	35.01	L	O
ATOM 5031	NE2	GLN	L	198	12.652	44.389	41.748	1.00	33.60	L	N
ATOM 5032	C	GLN	L	198	9.151	47.666	41.583	1.00	30.85	L	C
ATOM 5033	O	GLN	L	198	9.549	48.347	42.531	1.00	31.68	L	O
ATOM 5034	N	VAL	L	199	8.195	46.756	41.697	1.00	26.42	L	N
ATOM 5035	CA	VAL	L	199	7.599	46.462	42.992	1.00	29.57	L	C
ATOM 5036	CB	VAL	L	199	6.291	47.300	43.244	1.00	29.94	L	C
ATOM 5037	CG1	VAL	L	199	5.756	47.843	41.954	1.00	28.70	L	C
ATOM 5038	CG2	VAL	L	199	5.236	46.454	43.939	1.00	31.41	L	C
ATOM 5039	C	VAL	L	199	7.323	44.962	43.110	1.00	31.70	L	C
ATOM 5040	O	VAL	L	199	6.949	44.306	42.138	1.00	30.42	L	O
ATOM 5041	N	LEU	L	200	7.547	44.420	44.301	1.00	37.70	L	N
ATOM 5042	CA	LEU	L	200	7.316	43.005	44.545	1.00	36.76	L	C
ATOM 5043	CB	LEU	L	200	8.353	42.476	45.538	1.00	18.08	L	C
ATOM 5044	CG	LEU	L	200	8.069	41.125	46.193	1.00	18.08	L	C
ATOM 5045	CD1	LEU	L	200	7.589	40.104	45.162	1.00	18.08	L	C
ATOM 5046	CD2	LEU	L	200	9.338	40.665	46.890	1.00	18.08	L	C
ATOM 5047	C	LEU	L	200	5.903	42.773	45.074	1.00	37.74	L	C
ATOM 5048	O	LEU	L	200	5.579	43.125	46.207	1.00	39.16	L	O
ATOM 5049	N	TYR	L	201	5.062	42.183	44.239	1.00	30.87	L	N
ATOM 5050	CA	TYR	L	201	3.686	41.910	44.616	1.00	31.13	L	C
ATOM 5051	CB	TYR	L	201	2.815	41.833	43.368	1.00	52.18	L	C
ATOM 5052	CG	TYR	L	201	2.760	43.167	42.686	1.00	52.18	L	C
ATOM 5053	CD1	TYR	L	201	2.165	44.258	43.318	1.00	52.18	L	C
ATOM 5054	CE1	TYR	L	201	2.208	45.524	42.762	1.00	52.18	L	C
ATOM 5055	CD2	TYR	L	201	3.395	43.377	41.466	1.00	52.18	L	C
ATOM 5056	CE2	TYR	L	201	3.447	44.648	40.896	1.00	52.18	L	C
ATOM 5057	CZ	TYR	L	201	2.852	45.715	41.557	1.00	52.18	L	C
ATOM 5058	OH	TYR	L	201	2.921	46.984	41.034	1.00	52.18	L	O
ATOM 5059	C	TYR	L	201	3.582	40.640	45.424	1.00	30.57	L	C
ATOM 5060	O	TYR	L	201	4.029	39.575	45.004	1.00	30.03	L	O
ATOM 5061	N	THR	L	202	2.984	40.769	46.599	1.00	34.53	L	N
ATOM 5062	CA	THR	L	202	2.824	39.649	47.506	1.00	39.78	L	C
ATOM 5063	CB	THR	L	202	3.605	39.937	48.803	1.00	51.09	L	C
ATOM 5064	OG1	THR	L	202	3.571	38.793	49.650	1.00	51.09	L	O
ATOM 5065	CG2	THR	L	202	3.002	41.109	49.540	1.00	51.09	L	C
ATOM 5066	C	THR	L	202	1.332	39.439	47.787	1.00	38.42	L	C
ATOM 5067	O	THR	L	202	0.944	38.778	48.741	1.00	37.55	L	O
ATOM 5068	N	ASP	L	203	0.506	40.019	46.926	1.00	49.03	L	N
ATOM 5069	CA	ASP	L	203	-0.945	39.936	47.027	1.00	49.03	L	C
ATOM 5070	CB	ASP	L	203	-1.547	41.259	46.530	1.00	60.53	L	C
ATOM 5071	CG	ASP	L	203	-3.063	41.278	46.572	1.00	60.53	L	C
ATOM 5072	OD1	ASP	L	203	-3.634	42.388	46.650	1.00	60.53	L	O
ATOM 5073	OD2	ASP	L	203	-3.690	40.201	46.512	1.00	60.53	L	O
ATOM 5074	C	ASP	L	203	-1.395	38.761	46.164	1.00	49.03	L	C
ATOM 5075	O	ASP	L	203	-0.742	38.443	45.175	1.00	49.03	L	O
ATOM 5076	N	LYS	L	204	-2.494	38.106	46.527	1.00	45.97	L	N
ATOM 5077	CA	LYS	L	204	-2.954	36.972	45.736	1.00	45.97	L	C
ATOM 5078	CB	LYS	L	204	-3.236	35.774	46.647	1.00	57.97	L	C
ATOM 5079	CG	LYS	L	204	-4.360	35.969	47.637	1.00	57.97	L	C

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Figure 8-78

ATOM 5080	CD	LYS	L	204	-4.526	34.739	48.524	1.00	57.97	L	C
ATOM 5081	CE	LYS	L	204	-3.294	34.503	49.398	1.00	57.97	L	C
ATOM 5082	NZ	LYS	L	204	-3.438	33.300	50.271	1.00	57.97	L	N
ATOM 5083	C	LYS	L	204	-4.156	37.214	44.813	1.00	45.97	L	C
ATOM 5084	O	LYS	L	204	-4.820	36.259	44.408	1.00	45.97	L	O
ATOM 5085	N	THR	L	205	-4.433	38.474	44.467	1.00	36.45	L	N
ATOM 5086	CA	THR	L	205	-5.552	38.785	43.567	1.00	36.45	L	C
ATOM 5087	CB	THR	L	205	-5.856	40.289	43.546	1.00	54.00	L	C
ATOM 5088	OG1	THR	L	205	-4.802	40.978	42.870	1.00	54.00	L	O
ATOM 5089	CG2	THR	L	205	-5.954	40.825	44.954	1.00	54.00	L	C
ATOM 5090	C	THR	L	205	-5.142	38.339	42.165	1.00	36.45	L	C
ATOM 5091	O	THR	L	205	-3.954	38.325	41.859	1.00	36.45	L	O
ATOM 5092	N	TYR	L	206	-6.109	37.994	41.315	1.00	25.81	L	N
ATOM 5093	CA	TYR	L	206	-5.798	37.497	39.965	1.00	25.81	L	C
ATOM 5094	CB	TYR	L	206	-7.015	37.588	39.033	1.00	82.95	L	C
ATOM 5095	CG	TYR	L	206	-7.341	38.979	38.541	1.00	82.95	L	C
ATOM 5096	CD1	TYR	L	206	-7.636	39.213	37.197	1.00	82.95	L	C
ATOM 5097	CE1	TYR	L	206	-7.957	40.490	36.744	1.00	82.95	L	C
ATOM 5098	CD2	TYR	L	206	-7.376	40.058	39.420	1.00	82.95	L	C
ATOM 5099	CE2	TYR	L	206	-7.697	41.339	38.980	1.00	82.95	L	C
ATOM 5100	CZ	TYR	L	206	-7.986	41.550	37.643	1.00	82.95	L	C
ATOM 5101	OH	TYR	L	206	-8.299	42.821	37.214	1.00	82.95	L	O
ATOM 5102	C	TYR	L	206	-4.605	38.172	39.290	1.00	25.81	L	C
ATOM 5103	O	TYR	L	206	-3.790	37.507	38.641	1.00	25.81	L	O
ATOM 5104	N	ALA	L	207	-4.492	39.486	39.447	1.00	34.49	L	N
ATOM 5105	CA	ALA	L	207	-3.391	40.208	38.829	1.00	34.49	L	C
ATOM 5106	CB	ALA	L	207	-3.727	40.511	37.376	1.00	25.27	L	C
ATOM 5107	C	ALA	L	207	-3.051	41.491	39.562	1.00	34.49	L	C
ATOM 5108	O	ALA	L	207	-3.933	42.185	40.037	1.00	34.49	L	O
ATOM 5109	N	MET	L	208	-1.761	41.792	39.650	1.00	33.14	L	N
ATOM 5110	CA	MET	L	208	-1.280	43.002	40.308	1.00	33.14	L	C
ATOM 5111	CB	MET	L	208	-0.498	42.648	41.570	1.00	35.97	L	C
ATOM 5112	CG	MET	L	208	-1.353	42.071	42.666	1.00	35.97	L	C
ATOM 5113	SD	MET	L	208	-2.564	43.268	43.224	1.00	35.97	L	S
ATOM 5114	CE	MET	L	208	-1.572	44.198	44.391	1.00	35.97	L	C
ATOM 5115	C	MET	L	208	-0.379	43.784	39.356	1.00	33.14	L	C
ATOM 5116	O	MET	L	208	0.021	43.278	38.303	1.00	33.14	L	O
ATOM 5117	N	GLY	L	209	-0.058	45.019	39.720	1.00	44.31	L	N
ATOM 5118	CA	GLY	L	209	0.799	45.818	38.863	1.00	44.31	L	C
ATOM 5119	C	GLY	L	209	0.821	47.268	39.287	1.00	44.31	L	C
ATOM 5120	O	GLY	L	209	0.061	47.670	40.165	1.00	44.31	L	O
ATOM 5121	N	HIS	L	210	1.701	48.059	38.685	1.00	32.94	L	N
ATOM 5122	CA	HIS	L	210	1.774	49.469	39.035	1.00	32.94	L	C
ATOM 5123	CB	HIS	L	210	2.976	49.762	39.932	1.00	45.15	L	C
ATOM 5124	CG	HIS	L	210	4.279	49.294	39.372	1.00	45.15	L	C
ATOM 5125	CD2	HIS	L	210	5.390	49.977	39.007	1.00	45.15	L	C
ATOM 5126	ND1	HIS	L	210	4.568	47.961	39.175	1.00	45.15	L	N
ATOM 5127	CE1	HIS	L	210	5.802	47.840	38.716	1.00	45.15	L	C
ATOM 5128	NE2	HIS	L	210	6.322	49.051	38.606	1.00	45.15	L	N
ATOM 5129	C	HIS	L	210	1.831	50.370	37.828	1.00	32.94	L	C
ATOM 5130	O	HIS	L	210	2.069	49.928	36.698	1.00	32.94	L	O
ATOM 5131	N	LEU	L	211	1.604	51.649	38.089	1.00	24.83	L	N
ATOM 5132	CA	LEU	L	211	1.612	52.652	37.048	1.00	26.80	L	C
ATOM 5133	CB	LEU	L	211	0.272	53.374	37.010	1.00	11.39	L	C
ATOM 5134	CG	LEU	L	211	-0.974	52.514	37.173	1.00	10.65	L	C
ATOM 5135	CD1	LEU	L	211	-2.139	53.437	37.448	1.00	10.65	L	C
ATOM 5136	CD2	LEU	L	211	-1.209	51.656	35.933	1.00	10.65	L	C
ATOM 5137	C	LEU	L	211	2.680	53.671	37.361	1.00	27.88	L	C
ATOM 5138	O	LEU	L	211	2.751	54.184	38.475	1.00	30.87	L	O
ATOM 5139	N	ILE	L	212	3.537	53.946	36.394	1.00	36.26	L	N
ATOM 5140	CA	ILE	L	212	4.530	54.976	36.600	1.00	33.97	L	C
ATOM 5141	CB	ILE	L	212	5.869	54.627	35.924	1.00	20.28	L	C
ATOM 5142	CG2	ILE	L	212	6.784	55.844	35.908	1.00	27.09	L	C
ATOM 5143	CG1	ILE	L	212	6.542	53.492	36.696	1.00	27.09	L	C
ATOM 5144	CD1	ILE	L	212	7.823	53.018	36.065	1.00	27.09	L	C
ATOM 5145	C	ILE	L	212	3.834	56.135	35.905	1.00	31.92	L	C

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ATOM 5146	O	ILE	L	212	3.741	56.178	34.678	1.00	32.92	L	O
ATOM 5147	N	GLN	L	213	3.309	57.055	36.704	1.00	36.76	L	N
ATOM 5148	CA	GLN	L	213	2.567	58.178	36.167	1.00	37.94	L	C
ATOM 5149	CB	GLN	L	213	1.253	58.319	36.925	1.00	29.11	L	C
ATOM 5150	CG	GLN	L	213	0.489	57.030	37.064	1.00	35.54	L	C
ATOM 5151	CD	GLN	L	213	-0.795	57.214	37.835	1.00	35.54	L	C
ATOM 5152	OE1	GLN	L	213	-0.792	57.746	38.946	1.00	35.54	L	O
ATOM 5153	NE2	GLN	L	213	-1.909	56.772	37.249	1.00	35.54	L	N
ATOM 5154	C	GLN	L	213	3.288	59.514	36.179	1.00	35.91	L	C
ATOM 5155	O	GLN	L	213	4.205	59.753	36.976	1.00	34.63	L	O
ATOM 5156	N	ARG	L	214	2.837	60.385	35.282	1.00	29.78	L	N
ATOM 5157	CA	ARG	L	214	3.374	61.727	35.136	1.00	30.35	L	C
ATOM 5158	CB	ARG	L	214	3.783	61.941	33.690	1.00	45.42	L	C
ATOM 5159	CG	ARG	L	214	4.208	63.341	33.401	1.00	37.40	L	C
ATOM 5160	CD	ARG	L	214	4.315	63.551	31.924	1.00	37.40	L	C
ATOM 5161	NE	ARG	L	214	4.863	64.861	31.603	1.00	37.40	L	N
ATOM 5162	CZ	ARG	L	214	4.725	65.443	30.420	1.00	37.40	L	C
ATOM 5163	NH1	ARG	L	214	4.056	64.825	29.452	1.00	37.40	L	N
ATOM 5164	NH2	ARG	L	214	5.243	66.642	30.211	1.00	37.40	L	N
ATOM 5165	C	ARG	L	214	2.319	62.767	35.521	1.00	29.00	L	C
ATOM 5166	O	ARG	L	214	1.235	62.794	34.943	1.00	30.02	L	O
ATOM 5167	N	LYS	L	215	2.631	63.609	36.501	1.00	30.41	L	N
ATOM 5168	CA	LYS	L	215	1.717	64.659	36.942	1.00	35.06	L	C
ATOM 5169	CB	LYS	L	215	1.835	64.845	38.452	1.00	154.91	L	C
ATOM 5170	CG	LYS	L	215	0.622	65.452	39.122	1.00	90.83	L	C
ATOM 5171	CD	LYS	L	215	0.914	65.688	40.601	1.00	90.83	L	C
ATOM 5172	CE	LYS	L	215	-0.345	65.954	41.415	1.00	90.83	L	C
ATOM 5173	NZ	LYS	L	215	-1.180	64.726	41.574	1.00	90.83	L	N
ATOM 5174	C	LYS	L	215	2.218	65.906	36.218	1.00	33.30	L	C
ATOM 5175	O	LYS	L	215	3.242	66.471	36.601	1.00	32.40	L	O
ATOM 5176	N	LYS	L	216	1.514	66.321	35.165	1.00	45.93	L	N
ATOM 5177	CA	LYS	L	216	1.899	67.493	34.362	1.00	45.93	L	C
ATOM 5178	CB	LYS	L	216	1.210	67.433	33.004	1.00	50.19	L	C
ATOM 5179	CG	LYS	L	216	1.580	66.214	32.197	1.00	33.86	L	C
ATOM 5180	CD	LYS	L	216	0.956	66.233	30.805	1.00	33.86	L	C
ATOM 5181	CE	LYS	L	216	-0.544	66.012	30.847	1.00	33.86	L	C
ATOM 5182	NZ	LYS	L	216	-1.130	65.959	29.474	1.00	33.86	L	N
ATOM 5183	C	LYS	L	216	1.610	68.858	34.980	1.00	45.93	L	C
ATOM 5184	O	LYS	L	216	0.591	69.044	35.638	1.00	45.93	L	O
ATOM 5185	N	VAL	L	217	2.507	69.816	34.761	1.00	47.32	L	N
ATOM 5186	CA	VAL	L	217	2.307	71.163	35.287	1.00	47.32	L	C
ATOM 5187	CB	VAL	L	217	3.629	71.938	35.486	1.00	46.55	L	C
ATOM 5188	CG1	VAL	L	217	4.347	71.415	36.693	1.00	46.55	L	C
ATOM 5189	CG2	VAL	L	217	4.499	71.827	34.256	1.00	46.55	L	C
ATOM 5190	C	VAL	L	217	1.458	71.955	34.313	1.00	47.32	L	C
ATOM 5191	O	VAL	L	217	0.753	72.884	34.704	1.00	47.32	L	O
ATOM 5192	N	HIS	L	218	1.536	71.582	33.038	1.00	23.37	L	N
ATOM 5193	CA	HIS	L	218	0.774	72.241	31.975	1.00	23.37	L	C
ATOM 5194	CB	HIS	L	218	1.706	72.685	30.840	1.00	49.10	L	C
ATOM 5195	CG	HIS	L	218	2.812	73.593	31.268	1.00	49.10	L	C
ATOM 5196	CD2	HIS	L	218	4.048	73.788	30.754	1.00	49.10	L	C
ATOM 5197	ND1	HIS	L	218	2.683	74.488	32.310	1.00	49.10	L	N
ATOM 5198	CE1	HIS	L	218	3.793	75.195	32.420	1.00	49.10	L	C
ATOM 5199	NE2	HIS	L	218	4.637	74.790	31.487	1.00	49.10	L	N
ATOM 5200	C	HIS	L	218	-0.257	71.270	31.370	1.00	23.37	L	C
ATOM 5201	O	HIS	L	218	0.060	70.132	31.106	1.00	23.37	L	O
ATOM 5202	N	VAL	L	219	-1.483	71.685	31.091	1.00	33.51	L	N
ATOM 5203	CA	VAL	L	219	-2.435	70.749	30.484	1.00	33.51	L	C
ATOM 5204	CB	VAL	L	219	-3.345	70.091	31.529	1.00	20.61	L	C
ATOM 5205	CG1	VAL	L	219	-4.296	69.141	30.847	1.00	20.61	L	C
ATOM 5206	CG2	VAL	L	219	-2.509	69.328	32.539	1.00	20.61	L	C
ATOM 5207	C	VAL	L	219	-3.289	71.479	29.473	1.00	33.51	L	C
ATOM 5208	O	VAL	L	219	-3.573	72.651	29.633	1.00	33.51	L	O
ATOM 5209	N	PHE	L	220	-3.699	70.795	28.421	1.00	22.10	L	N
ATOM 5210	CA	PHE	L	220	-4.497	71.456	27.407	1.00	22.10	L	C
ATOM 5211	CB	PHE	L	220	-3.588	71.931	26.267	1.00	21.36	L	C

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ATOM 5212	CG	PHE	L	220	-2.525	72.902	26.708	1.00	21.36	L	C
ATOM 5213	CD1	PHE	L	220	-1.282	72.453	27.125	1.00	21.36	L	C
ATOM 5214	CD2	PHE	L	220	-2.785	74.269	26.752	1.00	21.36	L	C
ATOM 5215	CE1	PHE	L	220	-0.305	73.353	27.587	1.00	21.36	L	C
ATOM 5216	CE2	PHE	L	220	-1.817	75.168	27.211	1.00	21.36	L	C
ATOM 5217	CZ	PHE	L	220	-0.572	74.704	27.630	1.00	21.36	L	C
ATOM 5218	C	PHE	L	220	-5.635	70.625	26.846	1.00	22.10	L	C
ATOM 5219	O	PHE	L	220	-5.560	69.399	26.771	1.00	22.10	L	O
ATOM 5220	N	GLY	L	221	-6.697	71.315	26.453	1.00	43.43	L	N
ATOM 5221	CA	GLY	L	221	-7.843	70.641	25.889	1.00	43.43	L	C
ATOM 5222	C	GLY	L	221	-8.331	69.524	26.779	1.00	43.43	L	C
ATOM 5223	O	GLY	L	221	-8.316	69.634	28.006	1.00	43.43	L	O
ATOM 5224	N	ASP	L	222	-8.735	68.428	26.151	1.00	44.16	L	N
ATOM 5225	CA	ASP	L	222	-9.274	67.286	26.865	1.00	44.16	L	C
ATOM 5226	CB	ASP	L	222	-10.132	66.473	25.906	1.00	56.84	L	C
ATOM 5227	CG	ASP	L	222	-11.333	67.246	25.419	1.00	56.84	L	C
ATOM 5228	OD1	ASP	L	222	-11.843	66.920	24.325	1.00	56.84	L	O
ATOM 5229	OD2	ASP	L	222	-11.773	68.174	26.134	1.00	56.84	L	O
ATOM 5230	C	ASP	L	222	-8.288	66.372	27.581	1.00	44.16	L	C
ATOM 5231	O	ASP	L	222	-8.707	65.506	28.348	1.00	44.16	L	O
ATOM 5232	N	GLU	L	223	-6.990	66.550	27.357	1.00	37.70	L	N
ATOM 5233	CA	GLU	L	223	-6.017	65.686	28.025	1.00	37.70	L	C
ATOM 5234	CB	GLU	L	223	-4.629	65.906	27.414	1.00	40.35	L	C
ATOM 5235	CG	GLU	L	223	-4.538	65.368	25.979	1.00	40.35	L	C
ATOM 5236	CD	GLU	L	223	-3.138	65.441	25.388	1.00	40.35	L	C
ATOM 5237	OE1	GLU	L	223	-2.772	64.537	24.600	1.00	40.35	L	O
ATOM 5238	OE2	GLU	L	223	-2.411	66.407	25.705	1.00	40.35	L	O
ATOM 5239	C	GLU	L	223	-6.002	65.848	29.561	1.00	37.70	L	C
ATOM 5240	O	GLU	L	223	-6.405	66.891	30.090	1.00	37.70	L	O
ATOM 5241	N	LEU	L	224	-5.553	64.803	30.261	1.00	32.20	L	N
ATOM 5242	CA	LEU	L	224	-5.499	64.765	31.735	1.00	32.20	L	C
ATOM 5243	CB	LEU	L	224	-5.656	63.322	32.223	1.00	38.90	L	C
ATOM 5244	CG	LEU	L	224	-7.019	62.633	32.280	1.00	38.90	L	C
ATOM 5245	CD1	LEU	L	224	-7.893	63.052	31.113	1.00	38.90	L	C
ATOM 5246	CD2	LEU	L	224	-6.791	61.131	32.299	1.00	38.90	L	C
ATOM 5247	C	LEU	L	224	-4.223	65.312	32.358	1.00	32.20	L	C
ATOM 5248	O	LEU	L	224	-3.156	65.242	31.749	1.00	32.20	L	O
ATOM 5249	N	SER	L	225	-4.322	65.842	33.577	1.00	55.11	L	N
ATOM 5250	CA	SER	L	225	-3.125	66.347	34.233	1.00	55.11	L	C
ATOM 5251	CB	SER	L	225	-3.478	67.193	35.460	1.00	89.38	L	C
ATOM 5252	OG	SER	L	225	-4.286	66.471	36.365	1.00	89.38	L	O
ATOM 5253	C	SER	L	225	-2.233	65.170	34.636	1.00	55.11	L	C
ATOM 5254	O	SER	L	225	-1.007	65.289	34.649	1.00	55.11	L	O
ATOM 5255	N	LEU	L	226	-2.850	64.032	34.949	1.00	38.71	L	N
ATOM 5256	CA	LEU	L	226	-2.101	62.837	35.334	1.00	37.48	L	C
ATOM 5257	CB	LEU	L	226	-2.639	62.276	36.635	1.00	22.35	L	C
ATOM 5258	CG	LEU	L	226	-1.825	61.128	37.234	1.00	22.35	L	C
ATOM 5259	CD1	LEU	L	226	-0.512	61.663	37.794	1.00	22.35	L	C
ATOM 5260	CD2	LEU	L	226	-2.613	60.464	38.341	1.00	22.35	L	C
ATOM 5261	C	LEU	L	226	-2.207	61.757	34.263	1.00	32.95	L	C
ATOM 5262	O	LEU	L	226	-3.295	61.271	33.974	1.00	33.72	L	O
ATOM 5263	N	VAL	L	227	-1.085	61.384	33.666	1.00	56.73	L	N
ATOM 5264	CA	VAL	L	227	-1.110	60.363	32.636	1.00	51.73	L	C
ATOM 5265	CB	VAL	L	227	-0.740	60.950	31.265	1.00	36.85	L	C
ATOM 5266	CG1	VAL	L	227	-1.726	62.042	30.891	1.00	36.85	L	C
ATOM 5267	CG2	VAL	L	227	0.684	61.506	31.304	1.00	36.85	L	C
ATOM 5268	C	VAL	L	227	-0.105	59.292	33.012	1.00	47.56	L	C
ATOM 5269	O	VAL	L	227	0.942	59.593	33.593	1.00	38.47	L	O
ATOM 5270	N	THR	L	228	-0.409	58.037	32.698	1.00	37.14	L	N
ATOM 5271	CA	THR	L	228	0.536	56.989	33.042	1.00	38.85	L	C
ATOM 5272	CB	THR	L	228	-0.180	55.666	33.468	1.00	58.84	L	C
ATOM 5273	OG1	THR	L	228	-0.152	54.733	32.386	1.00	58.84	L	O
ATOM 5274	CG2	THR	L	228	-1.632	55.933	33.877	1.00	58.84	L	C
ATOM 5275	C	THR	L	228	1.466	56.748	31.858	1.00	37.14	L	C
ATOM 5276	O	THR	L	228	1.015	56.555	30.732	1.00	39.16	L	O
ATOM 5277	N	LEU	L	229	2.769	56.803	32.125	1.00	29.38	L	N

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ATOM 5278	CA	LEU	L	229	3.796	56.598	31.108	1.00	26.07	L	C
ATOM 5279	CB	LEU	L	229	5.124	57.190	31.578	1.00	27.53	L	C
ATOM 5280	CG	LEU	L	229	5.383	58.689	31.356	1.00	27.53	L	C
ATOM 5281	CD1	LEU	L	229	4.099	59.426	31.054	1.00	27.53	L	C
ATOM 5282	CD2	LEU	L	229	6.056	59.273	32.590	1.00	27.53	L	C
ATOM 5283	C	LEU	L	229	3.976	55.124	30.799	1.00	25.96	L	C
ATOM 5284	O	LEU	L	229	3.884	54.714	29.645	1.00	26.31	L	O
ATOM 5285	N	PHE	L	230	4.246	54.328	31.828	1.00	33.27	L	N
ATOM 5286	CA	PHE	L	230	4.418	52.893	31.644	1.00	33.01	L	C
ATOM 5287	CB	PHE	L	230	5.891	52.516	31.657	1.00	35.66	L	C
ATOM 5288	CG	PHE	L	230	6.768	53.566	31.092	1.00	35.66	L	C
ATOM 5289	CD1	PHE	L	230	7.483	54.404	31.932	1.00	35.66	L	C
ATOM 5290	CD2	PHE	L	230	6.827	53.776	29.711	1.00	35.66	L	C
ATOM 5291	CE1	PHE	L	230	8.247	55.448	31.412	1.00	35.66	L	C
ATOM 5292	CE2	PHE	L	230	7.586	54.816	29.174	1.00	35.66	L	C
ATOM 5293	CZ	PHE	L	230	8.298	55.657	30.027	1.00	35.66	L	C
ATOM 5294	C	PHE	L	230	3.740	52.174	32.777	1.00	34.90	L	C
ATOM 5295	O	PHE	L	230	3.558	52.740	33.861	1.00	33.66	L	O
ATOM 5296	N	ARG	L	231	3.361	50.927	32.524	1.00	20.17	L	N
ATOM 5297	CA	ARG	L	231	2.740	50.126	33.561	1.00	22.01	L	C
ATOM 5298	CB	ARG	L	231	1.201	50.197	33.473	1.00	13.91	L	C
ATOM 5299	CG	ARG	L	231	0.567	49.594	32.241	1.00	13.91	L	C
ATOM 5300	CD	ARG	L	231	-0.864	50.066	32.150	1.00	17.95	L	C
ATOM 5301	NE	ARG	L	231	-1.640	49.343	31.146	1.00	25.29	L	N
ATOM 5302	CZ	ARG	L	231	-2.088	48.105	31.310	1.00	35.79	L	C
ATOM 5303	NH1	ARG	L	231	-1.834	47.459	32.440	1.00	32.02	L	N
ATOM 5304	NH2	ARG	L	231	-2.790	47.518	30.351	1.00	36.56	L	N
ATOM 5305	C	ARG	L	231	3.244	48.690	33.511	1.00	24.15	L	C
ATOM 5306	O	ARG	L	231	3.730	48.201	32.485	1.00	27.14	L	O
ATOM 5307	N	CYS	L	232	3.130	48.036	34.655	1.00	40.76	L	N
ATOM 5308	CA	CYS	L	232	3.574	46.674	34.844	1.00	40.70	L	C
ATOM 5309	C	CYS	L	232	2.378	45.858	35.320	1.00	44.16	L	C
ATOM 5310	O	CYS	L	232	1.575	46.338	36.115	1.00	45.59	L	O
ATOM 5311	CB	CYS	L	232	4.649	46.672	35.922	1.00	53.97	L	C
ATOM 5312	SG	CYS	L	232	5.978	45.488	35.639	1.00	53.97	L	S
ATOM 5313	N	ILE	L	233	2.251	44.632	34.840	1.00	9.67	L	N
ATOM 5314	CA	ILE	L	233	1.150	43.787	35.273	1.00	11.37	L	C
ATOM 5315	CB	ILE	L	233	-0.038	43.841	34.266	1.00	36.44	L	C
ATOM 5316	CG2	ILE	L	233	0.390	43.301	32.911	1.00	36.44	L	C
ATOM 5317	CG1	ILE	L	233	-1.207	43.009	34.783	1.00	36.44	L	C
ATOM 5318	CD1	ILE	L	233	-1.743	43.492	36.078	1.00	36.44	L	C
ATOM 5319	C	ILE	L	233	1.650	42.351	35.407	1.00	15.85	L	C
ATOM 5320	O	ILE	L	233	2.382	41.846	34.550	1.00	16.31	L	O
ATOM 5321	N	GLN	L	234	1.238	41.689	36.480	1.00	29.90	L	N
ATOM 5322	CA	GLN	L	234	1.664	40.327	36.729	1.00	33.79	L	C
ATOM 5323	CB	GLN	L	234	2.845	40.366	37.700	1.00	37.73	L	C
ATOM 5324	CG	GLN	L	234	3.699	39.120	37.711	1.00	37.73	L	C
ATOM 5325	CD	GLN	L	234	4.551	38.969	36.463	1.00	37.73	L	C
ATOM 5326	OE1	GLN	L	234	5.041	37.877	36.161	1.00	37.73	L	O
ATOM 5327	NE2	GLN	L	234	4.734	40.062	35.735	1.00	37.73	L	N
ATOM 5328	C	GLN	L	234	0.518	39.496	37.313	1.00	34.74	L	C
ATOM 5329	O	GLN	L	234	-0.168	39.942	38.227	1.00	34.72	L	O
ATOM 5330	N	ASN	L	235	0.291	38.301	36.775	1.00	39.57	L	N
ATOM 5331	CA	ASN	L	235	-0.757	37.439	37.311	1.00	43.01	L	C
ATOM 5332	CB	ASN	L	235	-1.049	36.276	36.367	1.00	36.67	L	C
ATOM 5333	CG	ASN	L	235	-1.943	36.662	35.215	1.00	36.67	L	C
ATOM 5334	OD1	ASN	L	235	-3.044	37.165	35.411	1.00	36.67	L	O
ATOM 5335	ND2	ASN	L	235	-1.479	36.414	34.004	1.00	36.67	L	N
ATOM 5336	C	ASN	L	235	-0.234	36.884	38.629	1.00	40.91	L	C
ATOM 5337	O	ASN	L	235	0.951	36.567	38.748	1.00	38.22	L	O
ATOM 5338	N	MET	L	236	-1.107	36.764	39.619	1.00	31.53	L	N
ATOM 5339	CA	MET	L	236	-0.708	36.235	40.923	1.00	31.53	L	C
ATOM 5340	CB	MET	L	236	-1.118	37.204	42.026	1.00	43.52	L	C
ATOM 5341	CG	MET	L	236	-0.513	38.577	41.894	1.00	43.52	L	C
ATOM 5342	SD	MET	L	236	1.262	38.554	42.103	1.00	43.52	L	S
ATOM 5343	CE	MET	L	236	1.716	38.702	40.420	1.00	43.52	L	C

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Figure 8-82

ATOM 5344	C	MET	L	236	-1.344	34.868	41.198	1.00	31.53	L	C
ATOM 5345	O	MET	L	236	-2.486	34.617	40.811	1.00	31.53	L	O
ATOM 5346	N	PRO	L	237	-0.606	33.966	41.866	1.00	36.52	L	N
ATOM 5347	CD	PRO	L	237	0.817	34.082	42.241	1.00	27.91	L	C
ATOM 5348	CA	PRO	L	237	-1.114	32.630	42.187	1.00	36.52	L	C
ATOM 5349	CB	PRO	L	237	0.158	31.838	42.405	1.00	27.91	L	C
ATOM 5350	CG	PRO	L	237	1.034	32.844	43.089	1.00	27.91	L	C
ATOM 5351	C	PRO	L	237	-1.995	32.649	43.437	1.00	36.52	L	C
ATOM 5352	O	PRO	L	237	-2.074	33.665	44.139	1.00	36.52	L	O
ATOM 5353	N	GLU	L	238	-2.644	31.519	43.716	1.00	45.81	L	N
ATOM 5354	CA	GLU	L	238	-3.522	31.392	44.881	1.00	45.81	L	C
ATOM 5355	CB	GLU	L	238	-4.362	30.123	44.763	1.00	97.85	L	C
ATOM 5356	CG	GLU	L	238	-5.385	30.177	43.649	1.00	97.85	L	C
ATOM 5357	CD	GLU	L	238	-6.485	31.182	43.926	1.00	97.85	L	C
ATOM 5358	OE1	GLU	L	238	-6.167	32.355	44.213	1.00	97.85	L	O
ATOM 5359	OE2	GLU	L	238	-7.671	30.799	43.853	1.00	97.85	L	O
ATOM 5360	C	GLU	L	238	-2.755	31.371	46.197	1.00	45.81	L	C
ATOM 5361	O	GLU	L	238	-3.145	32.025	47.165	1.00	45.81	L	O
ATOM 5362	N	THR	L	239	-1.657	30.622	46.218	1.00	52.09	L	N
ATOM 5363	CA	THR	L	239	-0.836	30.504	47.413	1.00	52.09	L	C
ATOM 5364	CB	THR	L	239	-0.738	29.039	47.846	1.00	49.18	L	C
ATOM 5365	OG1	THR	L	239	-0.111	28.282	46.809	1.00	49.18	L	O
ATOM 5366	CG2	THR	L	239	-2.126	28.466	48.090	1.00	49.18	L	C
ATOM 5367	C	THR	L	239	0.578	31.061	47.223	1.00	52.09	L	C
ATOM 5368	O	THR	L	239	1.122	31.064	46.111	1.00	52.09	L	O
ATOM 5369	N	LEU	L	240	1.165	31.532	48.322	1.00	41.67	L	N
ATOM 5370	CA	LEU	L	240	2.509	32.103	48.309	1.00	41.67	L	C
ATOM 5371	CB	LEU	L	240	3.564	30.996	48.217	1.00	47.45	L	C
ATOM 5372	CG	LEU	L	240	3.727	30.038	49.398	1.00	47.45	L	C
ATOM 5373	CD1	LEU	L	240	4.054	30.816	50.654	1.00	47.45	L	C
ATOM 5374	CD2	LEU	L	240	2.448	29.249	49.588	1.00	47.45	L	C
ATOM 5375	C	LEU	L	240	2.734	33.091	47.171	1.00	41.67	L	C
ATOM 5376	O	LEU	L	240	3.740	33.018	46.474	1.00	41.67	L	O
ATOM 5377	N	PRO	L	241	1.800	34.029	46.963	1.00	51.08	L	N
ATOM 5378	CD	PRO	L	241	0.682	34.463	47.813	1.00	50.67	L	C
ATOM 5379	CA	PRO	L	241	2.016	34.982	45.875	1.00	47.07	L	C
ATOM 5380	CB	PRO	L	241	0.839	35.938	46.020	1.00	50.67	L	C
ATOM 5381	CG	PRO	L	241	0.590	35.930	47.480	1.00	50.67	L	C
ATOM 5382	C	PRO	L	241	3.363	35.671	46.074	1.00	44.66	L	C
ATOM 5383	O	PRO	L	241	3.643	36.217	47.142	1.00	45.70	L	O
ATOM 5384	N	ASN	L	242	4.198	35.646	45.046	1.00	41.66	L	N
ATOM 5385	CA	ASN	L	242	5.511	36.248	45.164	1.00	38.43	L	C
ATOM 5386	CB	ASN	L	242	6.430	35.254	45.876	1.00	47.24	L	C
ATOM 5387	CG	ASN	L	242	7.335	35.919	46.877	1.00	47.24	L	C
ATOM 5388	OD1	ASN	L	242	7.972	35.259	47.702	1.00	47.24	L	O
ATOM 5389	ND2	ASN	L	242	7.405	37.239	46.810	1.00	47.24	L	N
ATOM 5390	C	ASN	L	242	6.082	36.633	43.795	1.00	35.99	L	C
ATOM 5391	O	ASN	L	242	6.959	35.950	43.269	1.00	36.12	L	O
ATOM 5392	N	ASN	L	243	5.589	37.733	43.226	1.00	36.43	L	N
ATOM 5393	CA	ASN	L	243	6.048	38.200	41.916	1.00	33.74	L	C
ATOM 5394	CB	ASN	L	243	4.932	38.060	40.887	1.00	35.95	L	C
ATOM 5395	CG	ASN	L	243	4.809	36.654	40.323	1.00	35.95	L	C
ATOM 5396	OD1	ASN	L	243	3.703	36.179	40.058	1.00	35.95	L	O
ATOM 5397	ND2	ASN	L	243	5.937	35.995	40.107	1.00	35.95	L	N
ATOM 5398	C	ASN	L	243	6.521	39.647	41.882	1.00	30.87	L	C
ATOM 5399	O	ASN	L	243	5.810	40.542	42.316	1.00	30.79	L	O
ATOM 5400	N	SER	L	244	7.720	39.876	41.356	1.00	14.90	L	N
ATOM 5401	CA	SER	L	244	8.245	41.237	41.230	1.00	14.90	L	C
ATOM 5402	CB	SER	L	244	9.760	41.281	41.489	1.00	20.90	L	C
ATOM 5403	OG	SER	L	244	10.497	40.573	40.498	1.00	20.90	L	O
ATOM 5404	C	SER	L	244	7.942	41.653	39.790	1.00	18.64	L	C
ATOM 5405	O	SER	L	244	7.871	40.815	38.899	1.00	23.96	L	O
ATOM 5406	N	CYS	L	245	7.752	42.943	39.568	1.00	20.03	L	N
ATOM 5407	CA	CYS	L	245	7.444	43.437	38.238	1.00	18.28	L	C
ATOM 5408	C	CYS	L	245	8.274	44.685	37.966	1.00	18.84	L	C
ATOM 5409	O	CYS	L	245	8.257	45.624	38.771	1.00	16.80	L	O

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Figure 8-83

ATOM 5410	CB	CYS	L	245	5.964	43.789	38.166	1.00	51.76	L	C
ATOM 5411	SG	CYS	L	245	5.310	43.758	36.478	1.00	51.76	L	S
ATOM 5412	N	TYR	L	246	8.990	44.703	36.842	1.00	17.86	L	N
ATOM 5413	CA	TYR	L	246	9.825	45.851	36.481	1.00	14.58	L	C
ATOM 5414	CB	TYR	L	246	11.315	45.450	36.495	1.00	20.73	L	C
ATOM 5415	CG	TYR	L	246	12.281	46.466	35.885	1.00	20.73	L	C
ATOM 5416	CD1	TYR	L	246	13.193	47.167	36.684	1.00	20.73	L	C
ATOM 5417	CE1	TYR	L	246	14.103	48.082	36.120	1.00	20.73	L	C
ATOM 5418	CD2	TYR	L	246	12.300	46.710	34.505	1.00	20.73	L	C
ATOM 5419	CE2	TYR	L	246	13.197	47.620	33.941	1.00	20.73	L	C
ATOM 5420	CZ	TYR	L	246	14.095	48.294	34.749	1.00	20.73	L	C
ATOM 5421	OH	TYR	L	246	15.012	49.136	34.168	1.00	20.73	L	O
ATOM 5422	C	TYR	L	246	9.453	46.388	35.100	1.00	13.31	L	C
ATOM 5423	O	TYR	L	246	9.170	45.626	34.180	1.00	12.49	L	O
ATOM 5424	N	SER	L	247	9.446	47.706	34.956	1.00	44.19	L	N
ATOM 5425	CA	SER	L	247	9.154	48.306	33.666	1.00	42.89	L	C
ATOM 5426	CB	SER	L	247	7.656	48.509	33.469	1.00	27.23	L	C
ATOM 5427	OG	SER	L	247	7.387	48.914	32.136	1.00	27.23	L	O
ATOM 5428	C	SER	L	247	9.868	49.635	33.602	1.00	42.11	L	C
ATOM 5429	O	SER	L	247	10.036	50.305	34.625	1.00	39.54	L	O
ATOM 5430	N	ALA	L	248	10.306	50.007	32.404	1.00	35.19	L	N
ATOM 5431	CA	ALA	L	248	11.023	51.262	32.222	1.00	35.52	L	C
ATOM 5432	CB	ALA	L	248	12.534	51.054	32.459	1.00	1.00	L	C
ATOM 5433	C	ALA	L	248	10.788	51.816	30.833	1.00	34.23	L	C
ATOM 5434	O	ALA	L	248	10.407	51.096	29.914	1.00	30.90	L	O
ATOM 5435	N	GLY	L	249	11.014	53.109	30.683	1.00	23.48	L	N
ATOM 5436	CA	GLY	L	249	10.828	53.717	29.388	1.00	15.70	L	C
ATOM 5437	C	GLY	L	249	11.426	55.103	29.360	1.00	19.93	L	C
ATOM 5438	O	GLY	L	249	11.902	55.604	30.389	1.00	17.75	L	O
ATOM 5439	N	ILE	L	250	11.420	55.726	28.186	1.00	26.00	L	N
ATOM 5440	CA	ILE	L	250	11.968	57.068	28.061	1.00	26.00	L	C
ATOM 5441	CB	ILE	L	250	12.962	57.159	26.892	1.00	24.98	L	C
ATOM 5442	CG2	ILE	L	250	13.485	58.585	26.758	1.00	24.98	L	C
ATOM 5443	CG1	ILE	L	250	14.111	56.173	27.131	1.00	24.98	L	C
ATOM 5444	CD1	ILE	L	250	15.205	56.225	26.085	1.00	24.98	L	C
ATOM 5445	C	ILE	L	250	10.818	58.015	27.819	1.00	26.00	L	C
ATOM 5446	O	ILE	L	250	9.854	57.668	27.142	1.00	26.07	L	O
ATOM 5447	N	ALA	L	251	10.907	59.210	28.382	1.00	21.38	L	N
ATOM 5448	CA	ALA	L	251	9.840	60.185	28.207	1.00	22.68	L	C
ATOM 5449	CB	ALA	L	251	8.721	59.935	29.217	1.00	27.01	L	C
ATOM 5450	C	ALA	L	251	10.396	61.573	28.393	1.00	25.89	L	C
ATOM 5451	O	ALA	L	251	11.308	61.774	29.190	1.00	25.42	L	O
ATOM 5452	N	LYS	L	252	9.856	62.533	27.655	1.00	27.88	L	N
ATOM 5453	CA	LYS	L	252	10.316	63.900	27.790	1.00	28.03	L	C
ATOM 5454	CB	LYS	L	252	10.204	64.628	26.462	1.00	37.87	L	C
ATOM 5455	CG	LYS	L	252	10.741	66.034	26.504	1.00	38.35	L	C
ATOM 5456	CD	LYS	L	252	10.989	66.560	25.103	1.00	38.35	L	C
ATOM 5457	CE	LYS	L	252	11.481	68.005	25.103	1.00	38.35	L	C
ATOM 5458	NZ	LYS	L	252	10.426	68.953	25.575	1.00	38.35	L	N
ATOM 5459	C	LYS	L	252	9.447	64.577	28.842	1.00	28.65	L	C
ATOM 5460	O	LYS	L	252	8.235	64.635	28.705	1.00	31.53	L	O
ATOM 5461	N	LEU	L	253	10.071	65.061	29.906	1.00	19.88	L	N
ATOM 5462	CA	LEU	L	253	9.353	65.722	30.979	1.00	19.61	L	C
ATOM 5463	CB	LEU	L	253	9.764	65.127	32.325	1.00	37.85	L	C
ATOM 5464	CG	LEU	L	253	9.245	63.762	32.790	1.00	39.39	L	C
ATOM 5465	CD1	LEU	L	253	8.606	63.004	31.649	1.00	34.19	L	C
ATOM 5466	CD2	LEU	L	253	10.404	62.985	33.419	1.00	35.69	L	C
ATOM 5467	C	LEU	L	253	9.680	67.208	30.978	1.00	20.97	L	C
ATOM 5468	O	LEU	L	253	10.767	67.608	30.526	1.00	18.55	L	O
ATOM 5469	N	GLU	L	254	8.746	68.023	31.480	1.00	23.42	L	N
ATOM 5470	CA	GLU	L	254	8.947	69.471	31.569	1.00	25.09	L	C
ATOM 5471	CB	GLU	L	254	7.709	70.225	31.116	1.00	95.74	L	C
ATOM 5472	CG	GLU	L	254	7.465	70.205	29.641	1.00	65.03	L	C
ATOM 5473	CD	GLU	L	254	6.404	71.204	29.260	1.00	65.03	L	C
ATOM 5474	OE1	GLU	L	254	6.619	72.417	29.483	1.00	65.03	L	O
ATOM 5475	OE2	GLU	L	254	5.347	70.782	28.751	1.00	65.03	L	O

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Figure 8-84

ATOM 5476	C	GLU	L	254	9.240	69.863	33.006	1.00	25.88	L	C
ATOM 5477	O	GLU	L	254	8.754	69.223	33.946	1.00	25.60	L	O
ATOM 5478	N	GLU	L	255	10.044	70.907	33.181	1.00	28.14	L	N
ATOM 5479	CA	GLU	L	255	10.354	71.371	34.526	1.00	27.04	L	C
ATOM 5480	CB	GLU	L	255	11.152	72.668	34.491	1.00	56.78	L	C
ATOM 5481	CG	GLU	L	255	11.286	73.307	35.857	1.00	56.78	L	C
ATOM 5482	CD	GLU	L	255	12.030	74.619	35.817	1.00	56.78	L	C
ATOM 5483	OE1	GLU	L	255	12.190	75.235	36.894	1.00	56.78	L	O
ATOM 5484	OE2	GLU	L	255	12.454	75.029	34.714	1.00	56.78	L	O
ATOM 5485	C	GLU	L	255	9.031	71.621	35.236	1.00	29.49	L	C
ATOM 5486	O	GLU	L	255	8.159	72.299	34.707	1.00	32.72	L	O
ATOM 5487	N	GLY	L	256	8.882	71.058	36.425	1.00	18.79	L	N
ATOM 5488	CA	GLY	L	256	7.656	71.242	37.161	1.00	18.79	L	C
ATOM 5489	C	GLY	L	256	6.880	69.950	37.233	1.00	18.79	L	C
ATOM 5490	O	GLY	L	256	6.057	69.764	38.142	1.00	18.79	L	O
ATOM 5491	N	ASP	L	257	7.124	69.058	36.276	1.00	28.16	L	N
ATOM 5492	CA	ASP	L	257	6.434	67.772	36.265	1.00	31.44	L	C
ATOM 5493	CB	ASP	L	257	6.732	66.985	34.985	1.00	41.03	L	C
ATOM 5494	CG	ASP	L	257	6.063	67.566	33.768	1.00	41.03	L	C
ATOM 5495	OD1	ASP	L	257	5.040	68.262	33.927	1.00	41.03	L	O
ATOM 5496	OD2	ASP	L	257	6.555	67.308	32.651	1.00	41.03	L	O
ATOM 5497	C	ASP	L	257	6.849	66.913	37.453	1.00	31.23	L	C
ATOM 5498	O	ASP	L	257	7.915	67.104	38.048	1.00	35.69	L	O
ATOM 5499	N	GLU	L	258	5.988	65.964	37.791	1.00	27.14	L	N
ATOM 5500	CA	GLU	L	258	6.251	65.044	38.877	1.00	23.80	L	C
ATOM 5501	CB	GLU	L	258	5.353	65.357	40.069	1.00	37.75	L	C
ATOM 5502	CG	GLU	L	258	5.746	66.595	40.851	1.00	37.75	L	C
ATOM 5503	CD	GLU	L	258	4.837	66.832	42.052	1.00	37.75	L	C
ATOM 5504	OE1	GLU	L	258	5.179	67.679	42.915	1.00	37.75	L	O
ATOM 5505	OE2	GLU	L	258	3.772	66.175	42.137	1.00	37.75	L	O
ATOM 5506	C	GLU	L	258	5.991	63.621	38.390	1.00	22.51	L	C
ATOM 5507	O	GLU	L	258	5.114	63.389	37.547	1.00	22.51	L	O
ATOM 5508	N	LEU	L	259	6.775	62.674	38.893	1.00	23.71	L	N
ATOM 5509	CA	LEU	L	259	6.594	61.271	38.536	1.00	20.18	L	C
ATOM 5510	CB	LEU	L	259	7.889	60.689	37.966	1.00	18.89	L	C
ATOM 5511	CG	LEU	L	259	8.467	61.275	36.669	1.00	18.89	L	C
ATOM 5512	CD1	LEU	L	259	9.866	60.700	36.457	1.00	18.89	L	C
ATOM 5513	CD2	LEU	L	259	7.575	60.961	35.478	1.00	18.89	L	C
ATOM 5514	C	LEU	L	259	6.229	60.559	39.845	1.00	17.52	L	C
ATOM 5515	O	LEU	L	259	6.815	60.847	40.896	1.00	21.60	L	O
ATOM 5516	N	GLN	L	260	5.250	59.658	39.792	1.00	26.38	L	N
ATOM 5517	CA	GLN	L	260	4.827	58.920	40.979	1.00	25.14	L	C
ATOM 5518	CB	GLN	L	260	3.564	59.538	41.560	1.00	35.04	L	C
ATOM 5519	CG	GLN	L	260	2.314	59.192	40.769	1.00	35.04	L	C
ATOM 5520	CD	GLN	L	260	1.074	59.916	41.266	1.00	35.04	L	C
ATOM 5521	OE1	GLN	L	260	-0.051	59.561	40.900	1.00	35.04	L	O
ATOM 5522	NE2	GLN	L	260	1.273	60.947	42.093	1.00	35.04	L	N
ATOM 5523	C	GLN	L	260	4.538	57.483	40.580	1.00	25.13	L	C
ATOM 5524	O	GLN	L	260	4.141	57.215	39.445	1.00	22.66	L	O
ATOM 5525	N	LEU	L	261	4.736	56.554	41.504	1.00	33.82	L	N
ATOM 5526	CA	LEU	L	261	4.468	55.148	41.215	1.00	34.13	L	C
ATOM 5527	CB	LEU	L	261	5.650	54.280	41.651	1.00	30.18	L	C
ATOM 5528	CG	LEU	L	261	5.620	52.831	41.162	1.00	30.18	L	C
ATOM 5529	CD1	LEU	L	261	7.030	52.265	41.212	1.00	30.18	L	C
ATOM 5530	CD2	LEU	L	261	4.656	52.003	41.997	1.00	30.18	L	C
ATOM 5531	C	LEU	L	261	3.206	54.754	41.973	1.00	37.80	L	C
ATOM 5532	O	LEU	L	261	3.179	54.795	43.202	1.00	38.47	L	O
ATOM 5533	N	ALA	L	262	2.165	54.371	41.240	1.00	27.37	L	N
ATOM 5534	CA	ALA	L	262	0.897	54.012	41.862	1.00	29.77	L	C
ATOM 5535	CB	ALA	L	262	-0.165	55.010	41.443	1.00	58.76	L	C
ATOM 5536	C	ALA	L	262	0.397	52.600	41.590	1.00	29.07	L	C
ATOM 5537	O	ALA	L	262	0.464	52.105	40.462	1.00	29.10	L	O
ATOM 5538	N	ILE	L	263	-0.117	51.960	42.637	1.00	21.72	L	N
ATOM 5539	CA	ILE	L	263	-0.676	50.614	42.533	1.00	20.76	L	C
ATOM 5540	CB	ILE	L	263	-0.189	49.732	43.683	1.00	20.88	L	C
ATOM 5541	CG2	ILE	L	263	-0.831	48.360	43.589	1.00	20.88	L	C

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Figure 8-85

ATOM 5542	CG1	ILE	L	263	1.334	49.627	43.627	1.00	20.88	L	C
ATOM 5543	CD1	ILE	L	263	1.953	48.966	44.838	1.00	20.88	L	C
ATOM 5544	C	ILE	L	263	-2.201	50.723	42.591	1.00	19.08	L	C
ATOM 5545	O	ILE	L	263	-2.756	51.122	43.606	1.00	18.83	L	O
ATOM 5546	N	PRO	L	264	-2.891	50.375	41.494	1.00	47.96	L	N
ATOM 5547	CD	PRO	L	264	-2.273	49.960	40.230	1.00	33.94	L	C
ATOM 5548	CA	PRO	L	264	-4.350	50.420	41.349	1.00	47.96	L	C
ATOM 5549	CB	PRO	L	264	-4.559	50.209	39.848	1.00	33.94	L	C
ATOM 5550	CG	PRO	L	264	-3.229	50.540	39.239	1.00	33.94	L	C
ATOM 5551	C	PRO	L	264	-5.068	49.356	42.158	1.00	47.96	L	C
ATOM 5552	O	PRO	L	264	-5.777	48.519	41.602	1.00	47.96	L	O
ATOM 5553	N	ARG	L	265	-4.907	49.404	43.470	1.00	35.65	L	N
ATOM 5554	CA	ARG	L	265	-5.520	48.416	44.344	1.00	35.65	L	C
ATOM 5555	CB	ARG	L	265	-4.671	47.144	44.311	1.00	75.86	L	C
ATOM 5556	CG	ARG	L	265	-5.110	46.058	45.246	1.00	75.86	L	C
ATOM 5557	CD	ARG	L	265	-6.265	45.291	44.682	1.00	75.86	L	C
ATOM 5558	NE	ARG	L	265	-6.704	44.275	45.628	1.00	75.86	L	N
ATOM 5559	CZ	ARG	L	265	-7.694	43.419	45.395	1.00	75.86	L	C
ATOM 5560	NH1	ARG	L	265	-8.346	43.458	44.237	1.00	75.86	L	N
ATOM 5561	NH2	ARG	L	265	-8.036	42.532	46.325	1.00	75.86	L	N
ATOM 5562	C	ARG	L	265	-5.577	48.976	45.764	1.00	35.65	L	C
ATOM 5563	O	ARG	L	265	-4.646	49.663	46.208	1.00	35.65	L	O
ATOM 5564	N	GLU	L	266	-6.668	48.706	46.479	1.00	32.53	L	N
ATOM 5565	CA	GLU	L	266	-6.780	49.193	47.854	1.00	32.53	L	C
ATOM 5566	CB	GLU	L	266	-8.243	49.248	48.293	1.00	122.45	L	C
ATOM 5567	CG	GLU	L	266	-8.993	50.440	47.715	1.00	122.45	L	C
ATOM 5568	CD	GLU	L	266	-10.416	50.536	48.215	1.00	122.45	L	C
ATOM 5569	OE1	GLU	L	266	-10.619	50.509	49.448	1.00	122.45	L	O
ATOM 5570	OE2	GLU	L	266	-11.332	50.644	47.376	1.00	122.45	L	O
ATOM 5571	C	GLU	L	266	-5.976	48.249	48.737	1.00	32.53	L	C
ATOM 5572	O	GLU	L	266	-6.184	47.041	48.716	1.00	32.53	L	O
ATOM 5573	N	ASN	L	267	-5.035	48.805	49.490	1.00	56.49	L	N
ATOM 5574	CA	ASN	L	267	-4.176	47.997	50.344	1.00	56.49	L	C
ATOM 5575	CB	ASN	L	267	-4.985	47.375	51.475	1.00	65.55	L	C
ATOM 5576	CG	ASN	L	267	-5.633	48.425	52.350	1.00	65.55	L	C
ATOM 5577	OD1	ASN	L	267	-6.655	49.006	51.984	1.00	65.55	L	O
ATOM 5578	ND2	ASN	L	267	-5.023	48.699	53.501	1.00	65.55	L	N
ATOM 5579	C	ASN	L	267	-3.529	46.927	49.483	1.00	56.49	L	C
ATOM 5580	O	ASN	L	267	-3.808	45.740	49.617	1.00	56.49	L	O
ATOM 5581	N	ALA	L	268	-2.658	47.390	48.591	1.00	116.60	L	N
ATOM 5582	CA	ALA	L	268	-1.940	46.551	47.644	1.00	116.60	L	C
ATOM 5583	CB	ALA	L	268	-0.745	47.308	47.092	1.00	196.45	L	C
ATOM 5584	C	ALA	L	268	-1.479	45.199	48.148	1.00	116.60	L	C
ATOM 5585	O	ALA	L	268	-1.920	44.169	47.640	1.00	116.60	L	O
ATOM 5586	N	GLN	L	269	-0.586	45.207	49.133	1.00	52.80	L	N
ATOM 5587	CA	GLN	L	269	-0.011	43.974	49.681	1.00	50.73	L	C
ATOM 5588	CB	GLN	L	269	-0.952	42.779	49.476	1.00	68.94	L	C
ATOM 5589	CG	GLN	L	269	-0.866	41.730	50.553	1.00	61.59	L	C
ATOM 5590	CD	GLN	L	269	-1.133	42.313	51.929	1.00	61.59	L	C
ATOM 5591	OE1	GLN	L	269	-1.998	43.179	52.091	1.00	61.59	L	O
ATOM 5592	NE2	GLN	L	269	-0.397	41.835	52.929	1.00	61.59	L	N
ATOM 5593	C	GLN	L	269	1.277	43.753	48.889	1.00	51.42	L	C
ATOM 5594	O	GLN	L	269	1.388	42.820	48.090	1.00	50.01	L	O
ATOM 5595	N	ILE	L	270	2.246	44.632	49.115	1.00	40.30	L	N
ATOM 5596	CA	ILE	L	270	3.512	44.582	48.410	1.00	38.51	L	C
ATOM 5597	CB	ILE	L	270	3.768	45.920	47.727	1.00	33.31	L	C
ATOM 5598	CG2	ILE	L	270	2.632	46.205	46.735	1.00	36.87	L	C
ATOM 5599	CG1	ILE	L	270	3.844	47.029	48.777	1.00	36.87	L	C
ATOM 5600	CD1	ILE	L	270	4.220	48.393	48.207	1.00	33.31	L	C
ATOM 5601	C	ILE	L	270	4.677	44.214	49.317	1.00	38.15	L	C
ATOM 5602	O	ILE	L	270	4.460	43.694	50.400	1.00	36.13	L	O
ATOM 5603	N	SER	L	271	5.910	44.489	48.902	1.00	52.16	L	N
ATOM 5604	CA	SER	L	271	7.032	44.080	49.726	1.00	52.82	L	C
ATOM 5605	CB	SER	L	271	8.059	43.351	48.879	1.00	31.11	L	C
ATOM 5606	OG	SER	L	271	9.010	42.715	49.712	1.00	25.87	L	O
ATOM 5607	C	SER	L	271	7.754	45.093	50.586	1.00	50.13	L	C

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Figure 8-86

ATOM 5608	O	SER	L	271	8.234	44.742	51.659	1.00	51.49	L	O
ATOM 5609	N	LEU	L	272	7.863	46.335	50.141	1.00	25.65	L	N
ATOM 5610	CA	LEU	L	272	8.557	47.345	50.956	1.00	24.15	L	C
ATOM 5611	CB	LEU	L	272	7.861	47.547	52.314	1.00	29.26	L	C
ATOM 5612	CG	LEU	L	272	6.592	48.388	52.357	1.00	38.41	L	C
ATOM 5613	CD1	LEU	L	272	6.927	49.804	51.976	1.00	38.41	L	C
ATOM 5614	CD2	LEU	L	272	5.560	47.817	51.403	1.00	38.41	L	C
ATOM 5615	C	LEU	L	272	10.029	47.028	51.215	1.00	30.51	L	C
ATOM 5616	O	LEU	L	272	10.689	47.738	51.978	1.00	28.91	L	O
ATOM 5617	N	ASP	L	273	10.538	45.968	50.589	1.00	38.97	L	N
ATOM 5618	CA	ASP	L	273	11.945	45.585	50.726	1.00	34.14	L	C
ATOM 5619	CB	ASP	L	273	12.105	44.123	50.336	1.00	84.26	L	C
ATOM 5620	CG	ASP	L	273	12.969	43.360	51.307	1.00	84.26	L	C
ATOM 5621	OD1	ASP	L	273	12.684	43.421	52.524	1.00	84.26	L	O
ATOM 5622	OD2	ASP	L	273	13.923	42.698	50.850	1.00	84.26	L	O
ATOM 5623	C	ASP	L	273	12.739	46.494	49.765	1.00	35.80	L	C
ATOM 5624	O	ASP	L	273	12.603	46.392	48.547	1.00	39.13	L	O
ATOM 5625	N	GLY	L	274	13.552	47.385	50.322	1.00	50.94	L	N
ATOM 5626	CA	GLY	L	274	14.315	48.331	49.518	1.00	50.94	L	C
ATOM 5627	C	GLY	L	274	15.042	47.873	48.266	1.00	50.94	L	C
ATOM 5628	O	GLY	L	274	15.314	48.671	47.369	1.00	50.94	L	O
ATOM 5629	N	ASP	L	275	15.354	46.587	48.203	1.00	45.95	L	N
ATOM 5630	CA	ASP	L	275	16.079	46.014	47.077	1.00	45.95	L	C
ATOM 5631	CB	ASP	L	275	17.122	45.020	47.591	1.00	41.03	L	C
ATOM 5632	CG	ASP	L	275	16.488	43.795	48.245	1.00	41.03	L	C
ATOM 5633	OD1	ASP	L	275	15.246	43.751	48.372	1.00	41.03	L	O
ATOM 5634	OD2	ASP	L	275	17.223	42.871	48.632	1.00	41.03	L	O
ATOM 5635	C	ASP	L	275	15.184	45.297	46.077	1.00	45.95	L	C
ATOM 5636	O	ASP	L	275	15.682	44.624	45.163	1.00	45.95	L	O
ATOM 5637	N	VAL	L	276	13.871	45.409	46.244	1.00	25.09	L	N
ATOM 5638	CA	VAL	L	276	12.976	44.744	45.309	1.00	24.20	L	C
ATOM 5639	CB	VAL	L	276	12.388	43.437	45.914	1.00	32.49	L	C
ATOM 5640	CG1	VAL	L	276	11.349	43.755	46.989	1.00	32.49	L	C
ATOM 5641	CG2	VAL	L	276	11.794	42.575	44.796	1.00	32.49	L	C
ATOM 5642	C	VAL	L	276	11.862	45.684	44.870	1.00	22.31	L	C
ATOM 5643	O	VAL	L	276	11.223	45.465	43.845	1.00	22.70	L	O
ATOM 5644	N	THR	L	277	11.643	46.738	45.650	1.00	27.75	L	N
ATOM 5645	CA	THR	L	277	10.628	47.740	45.329	1.00	27.84	L	C
ATOM 5646	CB	THR	L	277	9.487	47.760	46.365	1.00	36.44	L	C
ATOM 5647	OG1	THR	L	277	8.775	46.516	46.320	1.00	37.17	L	O
ATOM 5648	CG2	THR	L	277	8.529	48.894	46.070	1.00	37.87	L	C
ATOM 5649	C	THR	L	277	11.314	49.105	45.310	1.00	26.11	L	C
ATOM 5650	O	THR	L	277	11.547	49.700	46.357	1.00	28.29	L	O
ATOM 5651	N	PHE	L	278	11.644	49.585	44.110	1.00	23.78	L	N
ATOM 5652	CA	PHE	L	278	12.332	50.863	43.936	1.00	17.95	L	C
ATOM 5653	CB	PHE	L	278	13.835	50.634	43.755	1.00	28.19	L	C
ATOM 5654	CG	PHE	L	278	14.168	49.523	42.794	1.00	28.19	L	C
ATOM 5655	CD1	PHE	L	278	14.380	49.788	41.444	1.00	28.19	L	C
ATOM 5656	CD2	PHE	L	278	14.237	48.205	43.240	1.00	28.19	L	C
ATOM 5657	CE1	PHE	L	278	14.656	48.759	40.555	1.00	28.19	L	C
ATOM 5658	CE2	PHE	L	278	14.509	47.171	42.366	1.00	28.19	L	C
ATOM 5659	CZ	PHE	L	278	14.720	47.446	41.015	1.00	28.19	L	C
ATOM 5660	C	PHE	L	278	11.778	51.620	42.753	1.00	20.41	L	C
ATOM 5661	O	PHE	L	278	11.102	51.055	41.898	1.00	25.57	L	O
ATOM 5662	N	PHE	L	279	12.101	52.904	42.706	1.00	29.38	L	N
ATOM 5663	CA	PHE	L	279	11.606	53.803	41.674	1.00	28.78	L	C
ATOM 5664	CB	PHE	L	279	10.384	54.520	42.263	1.00	37.13	L	C
ATOM 5665	CG	PHE	L	279	9.699	55.457	41.331	1.00	34.20	L	C
ATOM 5666	CD1	PHE	L	279	9.581	55.164	39.982	1.00	36.68	L	C
ATOM 5667	CD2	PHE	L	279	9.102	56.614	41.825	1.00	31.60	L	C
ATOM 5668	CE1	PHE	L	279	8.874	56.012	39.135	1.00	36.97	L	C
ATOM 5669	CE2	PHE	L	279	8.393	57.467	40.991	1.00	32.34	L	C
ATOM 5670	CZ	PHE	L	279	8.278	57.167	39.646	1.00	34.75	L	C
ATOM 5671	C	PHE	L	279	12.745	54.767	41.351	1.00	32.76	L	C
ATOM 5672	O	PHE	L	279	13.443	55.225	42.256	1.00	30.27	L	O
ATOM 5673	N	GLY	L	280	12.955	55.062	40.072	1.00	30.75	L	N

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Figure 8-87

ATOM 5674	CA	GLY	L	280	14.046	55.960	39.729	1.00	31.44	L	C
ATOM 5675	C	GLY	L	280	13.983	56.616	38.368	1.00	31.32	L	C
ATOM 5676	O	GLY	L	280	13.241	56.189	37.484	1.00	30.99	L	O
ATOM 5677	N	ALA	L	281	14.784	57.662	38.203	1.00	7.17	L	N
ATOM 5678	CA	ALA	L	281	14.828	58.396	36.944	1.00	7.17	L	C
ATOM 5679	CB	ALA	L	281	13.907	59.615	37.007	1.00	33.10	L	C
ATOM 5680	C	ALA	L	281	16.253	58.836	36.652	1.00	7.17	L	C
ATOM 5681	O	ALA	L	281	16.972	59.310	37.545	1.00	7.17	L	O
ATOM 5682	N	LEU	L	282	16.646	58.678	35.392	1.00	28.19	L	N
ATOM 5683	CA	LEU	L	282	17.983	59.040	34.940	1.00	26.08	L	C
ATOM 5684	CB	LEU	L	282	18.708	57.783	34.462	1.00	19.76	L	C
ATOM 5685	CG	LEU	L	282	20.199	57.830	34.159	1.00	23.76	L	C
ATOM 5686	CD1	LEU	L	282	20.597	56.494	33.605	1.00	20.19	L	C
ATOM 5687	CD2	LEU	L	282	20.517	58.921	33.166	1.00	25.66	L	C
ATOM 5688	C	LEU	L	282	17.832	60.011	33.781	1.00	26.95	L	C
ATOM 5689	O	LEU	L	282	17.094	59.734	32.825	1.00	26.28	L	O
ATOM 5690	N	LYS	L	283	18.523	61.146	33.849	1.00	24.17	L	N
ATOM 5691	CA	LYS	L	283	18.413	62.110	32.760	1.00	25.68	L	C
ATOM 5692	CB	LYS	L	283	18.682	63.532	33.236	1.00	44.71	L	C
ATOM 5693	CG	LYS	L	283	18.431	64.534	32.135	1.00	48.38	L	C
ATOM 5694	CD	LYS	L	283	18.636	65.955	32.583	1.00	43.23	L	C
ATOM 5695	CE	LYS	L	283	18.261	66.904	31.465	1.00	42.63	L	C
ATOM 5696	NZ	LYS	L	283	18.480	68.320	31.853	1.00	44.55	L	N
ATOM 5697	C	LYS	L	283	19.353	61.787	31.601	1.00	28.71	L	C
ATOM 5698	O	LYS	L	283	20.569	61.719	31.768	1.00	27.78	L	O
ATOM 5699	N	LEU	L	284	18.770	61.578	30.426	1.00	34.01	L	N
ATOM 5700	CA	LEU	L	284	19.542	61.277	29.237	1.00	37.36	L	C
ATOM 5701	CB	LEU	L	284	18.619	60.830	28.107	1.00	24.50	L	C
ATOM 5702	CG	LEU	L	284	17.909	59.522	28.427	1.00	21.79	L	C
ATOM 5703	CD1	LEU	L	284	17.001	59.107	27.282	1.00	19.73	L	C
ATOM 5704	CD2	LEU	L	284	18.964	58.467	28.692	1.00	23.17	L	C
ATOM 5705	C	LEU	L	284	20.295	62.520	28.820	1.00	40.03	L	C
ATOM 5706	O	LEU	L	284	19.736	63.615	28.779	1.00	41.82	L	O
ATOM 5707	N	LEU	L	285	21.571	62.344	28.512	1.00	35.97	L	N
ATOM 5708	CA	LEU	L	285	22.412	63.454	28.096	1.00	35.97	L	C
ATOM 5709	CB	LEU	L	285	23.856	62.990	27.943	1.00	53.75	L	C
ATOM 5710	CG	LEU	L	285	24.876	64.084	28.224	1.00	53.75	L	C
ATOM 5711	CD1	LEU	L	285	24.866	64.420	29.710	1.00	53.75	L	C
ATOM 5712	CD2	LEU	L	285	26.243	63.609	27.803	1.00	53.75	L	C
ATOM 5713	C	LEU	L	285	21.912	64.021	26.774	1.00	35.97	L	C
ATOM 5714	O	LEU	L	285	21.939	65.252	26.603	1.00	37.43	L	O
ATOM 5715	OXT	LEU	L	285	21.506	63.226	25.909	1.00	39.61	L	O
ATOM 5716	CB	VAL	M	142	33.545	61.898	25.849	1.00	46.81	M	C
ATOM 5717	CG1	VAL	M	142	33.829	63.218	26.549	1.00	46.81	M	C
ATOM 5718	CG2	VAL	M	142	34.821	61.311	25.241	1.00	46.81	M	C
ATOM 5719	C	VAL	M	142	32.391	59.721	26.053	1.00	87.36	M	C
ATOM 5720	O	VAL	M	142	31.589	59.900	25.137	1.00	87.36	M	O
ATOM 5721	N	VAL	M	142	33.915	60.490	27.887	1.00	87.36	M	N
ATOM 5722	CA	VAL	M	142	32.924	60.901	26.851	1.00	87.36	M	C
ATOM 5723	N	THR	M	143	32.824	58.515	26.405	1.00	77.98	M	N
ATOM 5724	CA	THR	M	143	32.395	57.332	25.678	1.00	77.98	M	C
ATOM 5725	CB	THR	M	143	33.586	56.489	25.245	1.00	71.02	M	C
ATOM 5726	OG1	THR	M	143	34.413	56.236	26.383	1.00	71.02	M	O
ATOM 5727	CG2	THR	M	143	34.389	57.205	24.176	1.00	71.02	M	C
ATOM 5728	C	THR	M	143	31.434	56.422	26.415	1.00	77.98	M	C
ATOM 5729	O	THR	M	143	30.892	55.497	25.816	1.00	77.98	M	O
ATOM 5730	N	GLN	M	144	31.230	56.652	27.707	1.00	51.10	M	N
ATOM 5731	CA	GLN	M	144	30.285	55.819	28.464	1.00	41.72	M	C
ATOM 5732	CB	GLN	M	144	28.856	56.089	27.957	1.00	77.71	M	C
ATOM 5733	CG	GLN	M	144	27.766	55.938	29.005	1.00	77.71	M	C
ATOM 5734	CD	GLN	M	144	26.404	56.414	28.521	1.00	77.71	M	C
ATOM 5735	OE1	GLN	M	144	25.464	56.572	29.313	1.00	24.92	M	O
ATOM 5736	NE2	GLN	M	144	26.287	56.642	27.219	1.00	24.92	M	N
ATOM 5737	C	GLN	M	144	30.602	54.316	28.357	1.00	38.91	M	C
ATOM 5738	O	GLN	M	144	30.000	53.605	27.551	1.00	33.99	M	O
ATOM 5739	N	ASP	M	145	31.542	53.834	29.170	1.00	33.21	M	N

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Figure 8-88

ATOM 5740	CA	ASP	M	145	31.923	52.419	29.141	1.00	32.92	M	C
ATOM 5741	CB	ASP	M	145	33.098	52.133	30.084	1.00	31.76	M	C
ATOM 5742	CG	ASP	M	145	34.278	53.049	29.858	1.00	49.67	M	C
ATOM 5743	OD1	ASP	M	145	34.627	53.296	28.691	1.00	49.67	M	O
ATOM 5744	OD2	ASP	M	145	34.871	53.511	30.856	1.00	49.67	M	O
ATOM 5745	C	ASP	M	145	30.781	51.498	29.550	1.00	30.96	M	C
ATOM 5746	O	ASP	M	145	29.839	51.912	30.233	1.00	29.93	M	O
ATOM 5747	N	CYS	M	146	30.884	50.239	29.144	1.00	22.86	M	N
ATOM 5748	CA	CYS	M	146	29.881	49.232	29.482	1.00	22.43	M	C
ATOM 5749	CB	CYS	M	146	28.565	49.508	28.747	1.00	23.44	M	C
ATOM 5750	SG	CYS	M	146	28.768	49.705	26.971	1.00	34.76	M	S
ATOM 5751	C	CYS	M	146	30.383	47.832	29.130	1.00	23.80	M	C
ATOM 5752	O	CYS	M	146	31.172	47.643	28.202	1.00	21.72	M	O
ATOM 5753	N	LEU	M	147	29.922	46.848	29.883	1.00	33.16	M	N
ATOM 5754	CA	LEU	M	147	30.327	45.476	29.650	1.00	33.16	M	C
ATOM 5755	CB	LEU	M	147	31.425	45.084	30.636	1.00	13.19	M	C
ATOM 5756	CG	LEU	M	147	31.860	43.622	30.632	1.00	13.19	M	C
ATOM 5757	CD1	LEU	M	147	33.256	43.540	31.204	1.00	17.72	M	C
ATOM 5758	CD2	LEU	M	147	30.885	42.763	31.426	1.00	17.72	M	C
ATOM 5759	C	LEU	M	147	29.111	44.592	29.833	1.00	33.16	M	C
ATOM 5760	O	LEU	M	147	28.297	44.824	30.724	1.00	34.32	M	O
ATOM 5761	N	GLN	M	148	28.992	43.573	28.996	1.00	30.62	M	N
ATOM 5762	CA	GLN	M	148	27.852	42.672	29.073	1.00	30.64	M	C
ATOM 5763	CB	GLN	M	148	26.887	42.990	27.941	1.00	10.12	M	C
ATOM 5764	CG	GLN	M	148	25.589	42.202	27.931	1.00	17.58	M	C
ATOM 5765	CD	GLN	M	148	24.605	42.756	26.908	1.00	17.58	M	C
ATOM 5766	OE1	GLN	M	148	23.740	43.575	27.233	1.00	17.58	M	O
ATOM 5767	NE2	GLN	M	148	24.757	42.327	25.656	1.00	17.58	M	N
ATOM 5768	C	GLN	M	148	28.250	41.210	29.001	1.00	31.76	M	C
ATOM 5769	O	GLN	M	148	29.107	40.820	28.211	1.00	32.27	M	O
ATOM 5770	N	LEU	M	149	27.611	40.407	29.840	1.00	29.59	M	N
ATOM 5771	CA	LEU	M	149	27.857	38.977	29.899	1.00	28.32	M	C
ATOM 5772	CB	LEU	M	149	28.205	38.572	31.336	1.00	21.96	M	C
ATOM 5773	CG	LEU	M	149	29.637	38.633	31.880	1.00	21.96	M	C
ATOM 5774	CD1	LEU	M	149	30.539	39.416	30.950	1.00	21.96	M	C
ATOM 5775	CD2	LEU	M	149	29.608	39.242	33.287	1.00	9.26	M	C
ATOM 5776	C	LEU	M	149	26.593	38.231	29.453	1.00	29.97	M	C
ATOM 5777	O	LEU	M	149	25.474	38.691	29.685	1.00	30.36	M	O
ATOM 5778	N	ILE	M	150	26.774	37.092	28.793	1.00	19.69	M	N
ATOM 5779	CA	ILE	M	150	25.643	36.281	28.365	1.00	18.56	M	C
ATOM 5780	CB	ILE	M	150	25.440	36.332	26.853	1.00	11.57	M	C
ATOM 5781	CG2	ILE	M	150	25.251	37.760	26.423	1.00	11.57	M	C
ATOM 5782	CG1	ILE	M	150	26.642	35.740	26.138	1.00	15.69	M	C
ATOM 5783	CD1	ILE	M	150	26.571	35.890	24.644	1.00	15.69	M	C
ATOM 5784	C	ILE	M	150	25.901	34.843	28.790	1.00	22.66	M	C
ATOM 5785	O	ILE	M	150	27.043	34.393	28.830	1.00	23.71	M	O
ATOM 5786	N	ALA	M	151	24.836	34.123	29.109	1.00	22.71	M	N
ATOM 5787	CA	ALA	M	151	24.956	32.746	29.555	1.00	22.71	M	C
ATOM 5788	CB	ALA	M	151	23.570	32.161	29.767	1.00	1.00	M	C
ATOM 5789	C	ALA	M	151	25.767	31.861	28.609	1.00	22.71	M	C
ATOM 5790	O	ALA	M	151	25.684	31.988	27.389	1.00	22.71	M	O
ATOM 5791	N	ASP	M	152	26.565	30.972	29.190	1.00	43.63	M	N
ATOM 5792	CA	ASP	M	152	27.380	30.047	28.415	1.00	43.63	M	C
ATOM 5793	CB	ASP	M	152	28.754	29.893	29.068	1.00	52.37	M	C
ATOM 5794	CG	ASP	M	152	29.634	28.891	28.347	1.00	52.37	M	C
ATOM 5795	OD1	ASP	M	152	30.714	28.562	28.879	1.00	52.37	M	O
ATOM 5796	OD2	ASP	M	152	29.249	28.434	27.251	1.00	52.37	M	O
ATOM 5797	C	ASP	M	152	26.658	28.697	28.378	1.00	43.63	M	C
ATOM 5798	O	ASP	M	152	26.716	27.916	29.325	1.00	43.63	M	O
ATOM 5799	N	SER	M	153	25.972	28.429	27.278	1.00	34.72	M	N
ATOM 5800	CA	SER	M	153	25.224	27.186	27.132	1.00	34.72	M	C
ATOM 5801	CB	SER	M	153	24.312	27.272	25.905	1.00	41.40	M	C
ATOM 5802	OG	SER	M	153	25.055	27.614	24.750	1.00	41.40	M	O
ATOM 5803	C	SER	M	153	26.119	25.956	27.008	1.00	34.72	M	C
ATOM 5804	O	SER	M	153	25.624	24.830	26.873	1.00	34.72	M	O
ATOM 5805	N	GLU	M	154	27.430	26.175	27.060	1.00	41.18	M	N

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Figure 8-89

ATOM 5806	CA	GLU	M	154	28.400	25.095	26.924	1.00	41.18	M	C
ATOM 5807	CB	GLU	M	154	29.624	25.604	26.167	1.00	104.99	M	C
ATOM 5808	CG	GLU	M	154	30.180	24.608	25.195	1.00	104.99	M	C
ATOM 5809	CD	GLU	M	154	29.220	24.348	24.060	1.00	104.99	M	C
ATOM 5810	OE1	GLU	M	154	29.013	25.272	23.248	1.00	104.99	M	O
ATOM 5811	OE2	GLU	M	154	28.667	23.229	23.985	1.00	104.99	M	O
ATOM 5812	C	GLU	M	154	28.849	24.532	28.271	1.00	41.18	M	C
ATOM 5813	O	GLU	M	154	29.287	23.392	28.359	1.00	41.18	M	O
ATOM 5814	N	THR	M	155	28.723	25.334	29.319	1.00	38.44	M	N
ATOM 5815	CA	THR	M	155	29.153	24.943	30.654	1.00	38.44	M	C
ATOM 5816	CB	THR	M	155	30.064	26.026	31.243	1.00	55.40	M	C
ATOM 5817	OG1	THR	M	155	31.185	26.211	30.378	1.00	55.40	M	O
ATOM 5818	CG2	THR	M	155	30.538	25.651	32.645	1.00	55.40	M	C
ATOM 5819	C	THR	M	155	28.020	24.722	31.642	1.00	38.44	M	C
ATOM 5820	O	THR	M	155	26.997	25.404	31.598	1.00	38.44	M	O
ATOM 5821	N	PRO	M	156	28.196	23.767	32.563	1.00	38.71	M	N
ATOM 5822	CD	PRO	M	156	29.303	22.807	32.694	1.00	91.23	M	C
ATOM 5823	CA	PRO	M	156	27.160	23.499	33.562	1.00	38.71	M	C
ATOM 5824	CB	PRO	M	156	27.621	22.190	34.184	1.00	91.23	M	C
ATOM 5825	CG	PRO	M	156	29.110	22.303	34.101	1.00	91.23	M	C
ATOM 5826	C	PRO	M	156	27.110	24.641	34.580	1.00	38.71	M	C
ATOM 5827	O	PRO	M	156	28.110	25.325	34.813	1.00	38.71	M	O
ATOM 5828	N	THR	M	157	25.945	24.844	35.179	1.00	39.72	M	N
ATOM 5829	CA	THR	M	157	25.789	25.899	36.163	1.00	39.72	M	C
ATOM 5830	CB	THR	M	157	24.348	25.965	36.645	1.00	27.24	M	C
ATOM 5831	OG1	THR	M	157	24.037	24.794	37.412	1.00	27.24	M	O
ATOM 5832	CG2	THR	M	157	23.421	26.036	35.449	1.00	27.24	M	C
ATOM 5833	C	THR	M	157	26.704	25.639	37.349	1.00	39.72	M	C
ATOM 5834	O	THR	M	157	26.952	24.493	37.700	1.00	39.72	M	O
ATOM 5835	N	ILE	M	158	27.193	26.706	37.965	1.00	40.41	M	N
ATOM 5836	CA	ILE	M	158	28.100	26.596	39.099	1.00	40.41	M	C
ATOM 5837	CB	ILE	M	158	29.028	27.818	39.158	1.00	40.44	M	C
ATOM 5838	CG2	ILE	M	158	30.046	27.648	40.267	1.00	40.44	M	C
ATOM 5839	CG1	ILE	M	158	29.719	28.003	37.814	1.00	40.44	M	C
ATOM 5840	CD1	ILE	M	158	30.573	29.241	37.747	1.00	40.44	M	C
ATOM 5841	C	ILE	M	158	27.380	26.495	40.440	1.00	40.41	M	C
ATOM 5842	O	ILE	M	158	26.509	27.307	40.740	1.00	40.41	M	O
ATOM 5843	N	GLN	M	159	27.756	25.506	41.246	1.00	58.62	M	N
ATOM 5844	CA	GLN	M	159	27.162	25.321	42.566	1.00	58.62	M	C
ATOM 5845	CB	GLN	M	159	26.846	23.857	42.793	1.00	52.65	M	C
ATOM 5846	CG	GLN	M	159	25.860	23.338	41.783	1.00	52.65	M	C
ATOM 5847	CD	GLN	M	159	24.568	24.109	41.813	1.00	52.65	M	C
ATOM 5848	OE1	GLN	M	159	23.886	24.209	40.805	1.00	52.65	M	O
ATOM 5849	NE2	GLN	M	159	24.215	24.655	42.980	1.00	52.65	M	N
ATOM 5850	C	GLN	M	159	28.148	25.798	43.611	1.00	58.62	M	C
ATOM 5851	O	GLN	M	159	29.308	25.417	43.577	1.00	58.62	M	O
ATOM 5852	N	LYS	M	160	27.692	26.623	44.545	1.00	51.30	M	N
ATOM 5853	CA	LYS	M	160	28.592	27.152	45.555	1.00	51.30	M	C
ATOM 5854	CB	LYS	M	160	29.547	28.144	44.891	1.00	82.19	M	C
ATOM 5855	CG	LYS	M	160	30.618	28.706	45.791	1.00	55.57	M	C
ATOM 5856	CD	LYS	M	160	31.587	29.560	44.985	1.00	55.57	M	C
ATOM 5857	CE	LYS	M	160	32.762	30.057	45.836	1.00	55.57	M	C
ATOM 5858	NZ	LYS	M	160	33.760	30.837	45.037	1.00	55.57	M	N
ATOM 5859	C	LYS	M	160	27.840	27.833	46.690	1.00	51.30	M	C
ATOM 5860	O	LYS	M	160	27.134	28.813	46.477	1.00	51.30	M	O
ATOM 5861	N	GLY	M	161	27.992	27.301	47.896	1.00	75.74	M	N
ATOM 5862	CA	GLY	M	161	27.335	27.881	49.051	1.00	75.74	M	C
ATOM 5863	C	GLY	M	161	25.824	27.866	48.983	1.00	75.74	M	C
ATOM 5864	O	GLY	M	161	25.179	28.861	49.319	1.00	75.74	M	O
ATOM 5865	N	SER	M	162	25.257	26.742	48.552	1.00	70.03	M	N
ATOM 5866	CA	SER	M	162	23.805	26.599	48.454	1.00	70.03	M	C
ATOM 5867	CB	SER	M	162	23.149	26.899	49.806	1.00	158.93	M	C
ATOM 5868	OG	SER	M	162	21.752	26.673	49.757	1.00	158.93	M	O
ATOM 5869	C	SER	M	162	23.194	27.500	47.376	1.00	70.03	M	C
ATOM 5870	O	SER	M	162	21.989	27.448	47.126	1.00	70.03	M	O
ATOM 5871	N	TYR	M	163	24.024	28.339	46.760	1.00	53.22	M	N

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ATOM 5872	CA	TYR	M	163	23.577	29.214	45.686	1.00	53.22	M	C
ATOM 5873	CB	TYR	M	163	24.279	30.571	45.732	1.00	62.29	M	C
ATOM 5874	CG	TYR	M	163	23.753	31.567	46.735	1.00	62.29	M	C
ATOM 5875	CD1	TYR	M	163	22.515	31.398	47.347	1.00	62.29	M	C
ATOM 5876	CE1	TYR	M	163	22.020	32.353	48.238	1.00	62.29	M	C
ATOM 5877	CD2	TYR	M	163	24.488	32.714	47.037	1.00	62.29	M	C
ATOM 5878	CE2	TYR	M	163	24.006	33.674	47.921	1.00	62.29	M	C
ATOM 5879	CZ	TYR	M	163	22.772	33.490	48.519	1.00	62.29	M	C
ATOM 5880	OH	TYR	M	163	22.296	34.444	49.391	1.00	62.29	M	O
ATOM 5881	C	TYR	M	163	23.957	28.546	44.372	1.00	53.22	M	C
ATOM 5882	O	TYR	M	163	24.643	27.525	44.354	1.00	53.22	M	O
ATOM 5883	N	THR	M	164	23.511	29.138	43.271	1.00	40.20	M	N
ATOM 5884	CA	THR	M	164	23.826	28.632	41.944	1.00	40.20	M	C
ATOM 5885	CB	THR	M	164	22.667	27.764	41.380	1.00	25.05	M	C
ATOM 5886	OG1	THR	M	164	22.884	27.510	39.989	1.00	25.05	M	O
ATOM 5887	CG2	THR	M	164	21.360	28.454	41.556	1.00	25.05	M	C
ATOM 5888	C	THR	M	164	24.110	29.831	41.040	1.00	40.20	M	C
ATOM 5889	O	THR	M	164	23.314	30.760	40.956	1.00	40.20	M	O
ATOM 5890	N	PHE	M	165	25.264	29.806	40.383	1.00	21.79	M	N
ATOM 5891	CA	PHE	M	165	25.681	30.889	39.510	1.00	21.79	M	C
ATOM 5892	CB	PHE	M	165	27.059	31.367	39.927	1.00	12.91	M	C
ATOM 5893	CG	PHE	M	165	27.136	31.749	41.366	1.00	12.91	M	C
ATOM 5894	CD1	PHE	M	165	27.223	30.768	42.354	1.00	12.91	M	C
ATOM 5895	CD2	PHE	M	165	27.073	33.091	41.743	1.00	12.91	M	C
ATOM 5896	CE1	PHE	M	165	27.245	31.111	43.693	1.00	12.91	M	C
ATOM 5897	CE2	PHE	M	165	27.093	33.451	43.082	1.00	12.91	M	C
ATOM 5898	CZ	PHE	M	165	27.180	32.456	44.069	1.00	12.91	M	C
ATOM 5899	C	PHE	M	165	25.714	30.443	38.074	1.00	21.79	M	C
ATOM 5900	O	PHE	M	165	26.038	29.292	37.788	1.00	21.79	M	O
ATOM 5901	N	VAL	M	166	25.379	31.344	37.160	1.00	22.17	M	N
ATOM 5902	CA	VAL	M	166	25.398	30.970	35.757	1.00	22.17	M	C
ATOM 5903	CB	VAL	M	166	24.304	31.735	34.919	1.00	19.31	M	C
ATOM 5904	CG1	VAL	M	166	23.447	32.581	35.825	1.00	19.31	M	C
ATOM 5905	CG2	VAL	M	166	24.938	32.590	33.840	1.00	19.31	M	C
ATOM 5906	C	VAL	M	166	26.782	31.233	35.176	1.00	22.17	M	C
ATOM 5907	O	VAL	M	166	27.463	32.189	35.550	1.00	22.17	M	O
ATOM 5908	N	PRO	M	167	27.228	30.358	34.271	1.00	27.22	M	N
ATOM 5909	CD	PRO	M	167	26.566	29.099	33.907	1.00	46.32	M	C
ATOM 5910	CA	PRO	M	167	28.525	30.465	33.605	1.00	27.22	M	C
ATOM 5911	CB	PRO	M	167	28.651	29.128	32.874	1.00	46.32	M	C
ATOM 5912	CG	PRO	M	167	27.739	28.221	33.619	1.00	46.32	M	C
ATOM 5913	C	PRO	M	167	28.426	31.624	32.610	1.00	27.22	M	C
ATOM 5914	O	PRO	M	167	27.608	31.582	31.686	1.00	27.22	M	O
ATOM 5915	N	TRP	M	168	29.238	32.656	32.786	1.00	35.73	M	N
ATOM 5916	CA	TRP	M	168	29.184	33.783	31.863	1.00	36.96	M	C
ATOM 5917	CB	TRP	M	168	29.361	35.116	32.603	1.00	33.08	M	C
ATOM 5918	CG	TRP	M	168	28.290	35.387	33.598	1.00	27.34	M	C
ATOM 5919	CD2	TRP	M	168	26.888	35.500	33.337	1.00	27.91	M	C
ATOM 5920	CE2	TRP	M	168	26.249	35.704	34.581	1.00	27.30	M	C
ATOM 5921	CE3	TRP	M	168	26.106	35.445	32.171	1.00	29.04	M	C
ATOM 5922	CD1	TRP	M	168	28.442	35.527	34.943	1.00	30.19	M	C
ATOM 5923	NE1	TRP	M	168	27.223	35.717	35.541	1.00	33.17	M	N
ATOM 5924	CZ2	TRP	M	168	24.863	35.856	34.698	1.00	27.06	M	C
ATOM 5925	CZ3	TRP	M	168	24.730	35.596	32.287	1.00	32.80	M	C
ATOM 5926	CH2	TRP	M	168	24.123	35.799	33.546	1.00	31.01	M	C
ATOM 5927	C	TRP	M	168	30.206	33.711	30.741	1.00	37.27	M	C
ATOM 5928	O	TRP	M	168	31.302	33.177	30.881	1.00	38.93	M	O
ATOM 5929	N	LEU	M	169	29.817	34.274	29.616	1.00	25.66	M	N
ATOM 5930	CA	LEU	M	169	30.647	34.336	28.439	1.00	26.13	M	C
ATOM 5931	CB	LEU	M	169	30.005	33.514	27.331	1.00	45.87	M	C
ATOM 5932	CG	LEU	M	169	30.937	32.559	26.606	1.00	45.87	M	C
ATOM 5933	CD1	LEU	M	169	30.123	31.497	25.909	1.00	45.87	M	C
ATOM 5934	CD2	LEU	M	169	31.802	33.348	25.628	1.00	45.87	M	C
ATOM 5935	C	LEU	M	169	30.616	35.825	28.106	1.00	26.76	M	C
ATOM 5936	O	LEU	M	169	29.548	36.439	28.126	1.00	25.11	M	O
ATOM 5937	N	LEU	M	170	31.772	36.419	27.824	1.00	37.08	M	N

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Figure 8-91

ATOM 5938	CA	LEU	M	170	31.809	37.848	27.532	1.00	37.08	M	C
ATOM 5939	CB	LEU	M	170	33.242	38.364	27.499	1.00	39.65	M	C
ATOM 5940	CG	LEU	M	170	33.292	39.832	27.069	1.00	39.65	M	C
ATOM 5941	CD1	LEU	M	170	32.709	40.710	28.173	1.00	39.65	M	C
ATOM 5942	CD2	LEU	M	170	34.713	40.241	26.776	1.00	39.65	M	C
ATOM 5943	C	LEU	M	170	31.131	38.230	26.231	1.00	37.08	M	C
ATOM 5944	O	LEU	M	170	31.625	37.917	25.151	1.00	37.83	M	O
ATOM 5945	N	SER	M	171	29.998	38.915	26.341	1.00	31.97	M	N
ATOM 5946	CA	SER	M	171	29.270	39.364	25.164	1.00	31.98	M	C
ATOM 5947	CB	SER	M	171	27.928	39.979	25.554	1.00	30.82	M	C
ATOM 5948	OG	SER	M	171	27.370	40.711	24.475	1.00	30.82	M	O
ATOM 5949	C	SER	M	171	30.132	40.414	24.496	1.00	30.37	M	C
ATOM 5950	O	SER	M	171	30.437	40.318	23.307	1.00	30.07	M	O
ATOM 5951	N	PHE	M	172	30.522	41.418	25.274	1.00	28.47	M	N
ATOM 5952	CA	PHE	M	172	31.365	42.482	24.768	1.00	24.99	M	C
ATOM 5953	CB	PHE	M	172	30.620	43.325	23.727	1.00	51.48	M	C
ATOM 5954	CG	PHE	M	172	29.706	44.342	24.321	1.00	30.14	M	C
ATOM 5955	CD1	PHE	M	172	30.207	45.541	24.814	1.00	30.14	M	C
ATOM 5956	CD2	PHE	M	172	28.345	44.081	24.452	1.00	30.14	M	C
ATOM 5957	CE1	PHE	M	172	29.367	46.466	25.439	1.00	30.14	M	C
ATOM 5958	CE2	PHE	M	172	27.494	45.001	25.075	1.00	30.14	M	C
ATOM 5959	CZ	PHE	M	172	28.006	46.194	25.570	1.00	30.14	M	C
ATOM 5960	C	PHE	M	172	31.798	43.350	25.937	1.00	26.53	M	C
ATOM 5961	O	PHE	M	172	31.113	43.426	26.955	1.00	27.32	M	O
ATOM 5962	N	LYS	M	173	32.951	43.991	25.781	1.00	33.13	M	N
ATOM 5963	CA	LYS	M	173	33.512	44.878	26.790	1.00	32.17	M	C
ATOM 5964	CB	LYS	M	173	34.778	44.272	27.380	1.00	33.93	M	C
ATOM 5965	CG	LYS	M	173	35.606	45.217	28.222	1.00	52.93	M	C
ATOM 5966	CD	LYS	M	173	36.905	44.537	28.624	1.00	52.93	M	C
ATOM 5967	CE	LYS	M	173	37.754	45.423	29.509	1.00	52.93	M	C
ATOM 5968	NZ	LYS	M	173	38.096	46.702	28.835	1.00	52.93	M	N
ATOM 5969	C	LYS	M	173	33.850	46.141	26.036	1.00	33.95	M	C
ATOM 5970	O	LYS	M	173	34.476	46.089	24.981	1.00	35.44	M	O
ATOM 5971	N	ARG	M	174	33.425	47.274	26.567	1.00	26.99	M	N
ATOM 5972	CA	ARG	M	174	33.668	48.541	25.907	1.00	26.99	M	C
ATOM 5973	CB	ARG	M	174	32.370	49.059	25.282	1.00	25.49	M	C
ATOM 5974	CG	ARG	M	174	32.538	50.325	24.482	1.00	25.49	M	C
ATOM 5975	CD	ARG	M	174	31.223	51.003	24.239	1.00	25.49	M	C
ATOM 5976	NE	ARG	M	174	31.383	52.186	23.399	1.00	25.49	M	N
ATOM 5977	CZ	ARG	M	174	30.621	53.270	23.500	1.00	25.49	M	C
ATOM 5978	NH1	ARG	M	174	29.655	53.314	24.409	1.00	25.49	M	N
ATOM 5979	NH2	ARG	M	174	30.820	54.305	22.697	1.00	25.49	M	N
ATOM 5980	C	ARG	M	174	34.173	49.546	26.917	1.00	26.99	M	C
ATOM 5981	O	ARG	M	174	33.419	49.977	27.802	1.00	26.99	M	O
ATOM 5982	N	GLY	M	175	35.444	49.917	26.803	1.00	34.89	M	N
ATOM 5983	CA	GLY	M	175	35.984	50.894	27.727	1.00	34.89	M	C
ATOM 5984	C	GLY	M	175	36.904	50.343	28.793	1.00	34.89	M	C
ATOM 5985	O	GLY	M	175	37.129	49.134	28.875	1.00	34.89	M	O
ATOM 5986	N	SER	M	176	37.424	51.252	29.615	1.00	43.14	M	N
ATOM 5987	CA	SER	M	176	38.360	50.929	30.683	1.00	43.14	M	C
ATOM 5988	CB	SER	M	176	39.209	52.157	31.006	1.00	68.27	M	C
ATOM 5989	OG	SER	M	176	38.395	53.309	31.121	1.00	68.27	M	O
ATOM 5990	C	SER	M	176	37.697	50.414	31.947	1.00	43.14	M	C
ATOM 5991	O	SER	M	176	38.069	49.352	32.436	1.00	43.14	M	O
ATOM 5992	N	ALA	M	177	36.735	51.163	32.486	1.00	67.25	M	N
ATOM 5993	CA	ALA	M	177	36.029	50.739	33.698	1.00	67.25	M	C
ATOM 5994	CB	ALA	M	177	35.045	51.786	34.135	1.00	13.20	M	C
ATOM 5995	C	ALA	M	177	35.283	49.484	33.343	1.00	67.25	M	C
ATOM 5996	O	ALA	M	177	34.929	49.289	32.183	1.00	67.25	M	O
ATOM 5997	N	LEU	M	178	35.032	48.630	34.322	1.00	29.05	M	N
ATOM 5998	CA	LEU	M	178	34.306	47.396	34.028	1.00	29.05	M	C
ATOM 5999	CB	LEU	M	178	32.972	47.727	33.357	1.00	43.76	M	C
ATOM 6000	CG	LEU	M	178	31.704	47.893	34.185	1.00	24.83	M	C
ATOM 6001	CD1	LEU	M	178	31.997	48.438	35.583	1.00	24.83	M	C
ATOM 6002	CD2	LEU	M	178	30.773	48.803	33.412	1.00	24.83	M	C
ATOM 6003	C	LEU	M	178	35.042	46.402	33.129	1.00	29.05	M	C

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Figure 8-92

ATOM 6004	O	LEU	M	178	35.329	46.693	31.974	1.00	29.05	M	O
ATOM 6005	N	GLU	M	179	35.347	45.229	33.664	1.00	44.70	M	N
ATOM 6006	CA	GLU	M	179	35.985	44.163	32.901	1.00	44.70	M	C
ATOM 6007	CB	GLU	M	179	37.508	44.332	32.834	1.00	105.55	M	C
ATOM 6008	CG	GLU	M	179	38.219	44.478	34.152	1.00	54.75	M	C
ATOM 6009	CD	GLU	M	179	39.689	44.829	33.973	1.00	54.75	M	C
ATOM 6010	OE1	GLU	M	179	39.986	45.904	33.400	1.00	54.75	M	O
ATOM 6011	OE2	GLU	M	179	40.548	44.030	34.403	1.00	54.75	M	O
ATOM 6012	C	GLU	M	179	35.577	42.896	33.635	1.00	44.70	M	C
ATOM 6013	O	GLU	M	179	35.163	42.964	34.789	1.00	44.70	M	O
ATOM 6014	N	GLU	M	180	35.646	41.749	32.971	1.00	46.38	M	N
ATOM 6015	CA	GLU	M	180	35.226	40.507	33.607	1.00	46.38	M	C
ATOM 6016	CB	GLU	M	180	34.763	39.512	32.544	1.00	33.64	M	C
ATOM 6017	CG	GLU	M	180	34.522	38.103	33.048	1.00	33.64	M	C
ATOM 6018	CD	GLU	M	180	34.028	37.179	31.948	1.00	33.64	M	C
ATOM 6019	OE1	GLU	M	180	34.516	37.291	30.799	1.00	43.43	M	O
ATOM 6020	OE2	GLU	M	180	33.160	36.330	32.236	1.00	43.43	M	O
ATOM 6021	C	GLU	M	180	36.325	39.904	34.453	1.00	46.38	M	C
ATOM 6022	O	GLU	M	180	37.420	39.655	33.959	1.00	46.38	M	O
ATOM 6023	N	LYS	M	181	36.025	39.677	35.729	1.00	58.37	M	N
ATOM 6024	CA	LYS	M	181	36.989	39.108	36.659	1.00	58.37	M	C
ATOM 6025	CB	LYS	M	181	36.768	39.665	38.061	1.00	69.13	M	C
ATOM 6026	CG	LYS	M	181	37.769	39.182	39.104	1.00	69.13	M	C
ATOM 6027	CD	LYS	M	181	39.142	39.774	38.885	1.00	69.13	M	C
ATOM 6028	CE	LYS	M	181	40.039	39.504	40.077	1.00	69.13	M	C
ATOM 6029	NZ	LYS	M	181	41.296	40.293	39.998	1.00	69.13	M	N
ATOM 6030	C	LYS	M	181	36.871	37.596	36.694	1.00	58.37	M	C
ATOM 6031	O	LYS	M	181	37.258	36.913	35.750	1.00	58.37	M	O
ATOM 6032	N	GLU	M	182	36.328	37.064	37.778	1.00	48.53	M	N
ATOM 6033	CA	GLU	M	182	36.201	35.623	37.899	1.00	48.53	M	C
ATOM 6034	CB	GLU	M	182	36.773	35.161	39.235	1.00	87.71	M	C
ATOM 6035	CG	GLU	M	182	38.151	35.718	39.499	1.00	87.71	M	C
ATOM 6036	CD	GLU	M	182	38.717	35.263	40.815	1.00	87.71	M	C
ATOM 6037	OE1	GLU	M	182	39.094	34.079	40.915	1.00	87.71	M	O
ATOM 6038	OE2	GLU	M	182	38.777	36.089	41.749	1.00	87.71	M	O
ATOM 6039	C	GLU	M	182	34.742	35.272	37.797	1.00	48.53	M	C
ATOM 6040	O	GLU	M	182	34.109	34.893	38.779	1.00	48.53	M	O
ATOM 6041	N	ASN	M	183	34.215	35.407	36.589	1.00	24.07	M	N
ATOM 6042	CA	ASN	M	183	32.820	35.130	36.310	1.00	24.07	M	C
ATOM 6043	CB	ASN	M	183	32.414	33.753	36.823	1.00	27.63	M	C
ATOM 6044	CG	ASN	M	183	31.102	33.287	36.231	1.00	27.63	M	C
ATOM 6045	OD1	ASN	M	183	30.986	33.129	35.014	1.00	27.63	M	O
ATOM 6046	ND2	ASN	M	183	30.100	33.074	37.085	1.00	27.63	M	N
ATOM 6047	C	ASN	M	183	31.945	36.187	36.955	1.00	24.07	M	C
ATOM 6048	O	ASN	M	183	30.760	35.965	37.206	1.00	24.07	M	O
ATOM 6049	N	LYS	M	184	32.543	37.334	37.244	1.00	31.47	M	N
ATOM 6050	CA	LYS	M	184	31.805	38.438	37.826	1.00	31.47	M	C
ATOM 6051	CB	LYS	M	184	31.971	38.462	39.351	1.00	55.99	M	C
ATOM 6052	CG	LYS	M	184	33.159	37.700	39.883	1.00	55.99	M	C
ATOM 6053	CD	LYS	M	184	33.049	37.565	41.384	1.00	55.99	M	C
ATOM 6054	CE	LYS	M	184	34.229	36.814	41.974	1.00	55.99	M	C
ATOM 6055	NZ	LYS	M	184	34.147	36.759	43.471	1.00	55.99	M	N
ATOM 6056	C	LYS	M	184	32.288	39.736	37.194	1.00	31.47	M	C
ATOM 6057	O	LYS	M	184	33.352	39.770	36.572	1.00	31.47	M	O
ATOM 6058	N	ILE	M	185	31.492	40.794	37.313	1.00	19.08	M	N
ATOM 6059	CA	ILE	M	185	31.881	42.080	36.751	1.00	17.57	M	C
ATOM 6060	CB	ILE	M	185	30.655	42.926	36.402	1.00	10.29	M	C
ATOM 6061	CG2	ILE	M	185	31.095	44.284	35.894	1.00	10.29	M	C
ATOM 6062	CG1	ILE	M	185	29.811	42.192	35.365	1.00	10.29	M	C
ATOM 6063	CD1	ILE	M	185	28.479	42.868	35.063	1.00	10.29	M	C
ATOM 6064	C	ILE	M	185	32.732	42.852	37.754	1.00	18.03	M	C
ATOM 6065	O	ILE	M	185	32.309	43.085	38.893	1.00	21.22	M	O
ATOM 6066	N	LEU	M	186	33.929	43.246	37.322	1.00	20.89	M	N
ATOM 6067	CA	LEU	M	186	34.852	43.995	38.171	1.00	20.09	M	C
ATOM 6068	CB	LEU	M	186	36.272	43.444	38.022	1.00	32.63	M	C
ATOM 6069	CG	LEU	M	186	37.362	44.273	38.701	1.00	32.63	M	C

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Figure 8-93

ATOM 6070	CD1	LEU	M	186	37.034	44.429	40.176	1.00	32.63	M	C
ATOM 6071	CD2	LEU	M	186	38.704	43.599	38.515	1.00	32.63	M	C
ATOM 6072	C	LEU	M	186	34.853	45.483	37.844	1.00	17.23	M	C
ATOM 6073	O	LEU	M	186	35.082	45.875	36.698	1.00	24.16	M	O
ATOM 6074	N	VAL	M	187	34.593	46.309	38.854	1.00	21.94	M	N
ATOM 6075	CA	VAL	M	187	34.577	47.756	38.662	1.00	23.44	M	C
ATOM 6076	CB	VAL	M	187	33.781	48.471	39.761	1.00	22.14	M	C
ATOM 6077	CG1	VAL	M	187	33.874	49.979	39.557	1.00	20.19	M	C
ATOM 6078	CG2	VAL	M	187	32.330	48.020	39.736	1.00	29.20	M	C
ATOM 6079	C	VAL	M	187	35.997	48.287	38.706	1.00	25.65	M	C
ATOM 6080	O	VAL	M	187	36.711	48.069	39.686	1.00	27.97	M	O
ATOM 6081	N	LYS	M	188	36.401	48.989	37.651	1.00	40.99	M	N
ATOM 6082	CA	LYS	M	188	37.752	49.535	37.587	1.00	42.88	M	C
ATOM 6083	CB	LYS	M	188	38.392	49.213	36.227	1.00	48.48	M	C
ATOM 6084	CG	LYS	M	188	39.076	47.848	36.172	1.00	52.46	M	C
ATOM 6085	CD	LYS	M	188	40.245	47.816	37.144	1.00	57.75	M	C
ATOM 6086	CE	LYS	M	188	40.828	46.420	37.329	1.00	62.71	M	C
ATOM 6087	NZ	LYS	M	188	41.475	45.895	36.102	1.00	47.88	M	N
ATOM 6088	C	LYS	M	188	37.818	51.033	37.863	1.00	40.69	M	C
ATOM 6089	O	LYS	M	188	38.870	51.558	38.215	1.00	43.27	M	O
ATOM 6090	N	GLU	M	189	36.694	51.720	37.707	1.00	43.19	M	N
ATOM 6091	CA	GLU	M	189	36.637	53.160	37.951	1.00	45.88	M	C
ATOM 6092	CB	GLU	M	189	36.569	53.938	36.643	1.00	65.80	M	C
ATOM 6093	CG	GLU	M	189	37.671	53.620	35.677	1.00	65.80	M	C
ATOM 6094	CD	GLU	M	189	37.520	54.383	34.386	1.00	65.80	M	C
ATOM 6095	OE1	GLU	M	189	38.321	54.140	33.458	1.00	65.80	M	O
ATOM 6096	OE2	GLU	M	189	36.599	55.227	34.305	1.00	65.80	M	O
ATOM 6097	C	GLU	M	189	35.393	53.466	38.755	1.00	43.40	M	C
ATOM 6098	O	GLU	M	189	34.277	53.260	38.286	1.00	43.96	M	O
ATOM 6099	N	THR	M	190	35.582	53.965	39.967	1.00	35.99	M	N
ATOM 6100	CA	THR	M	190	34.451	54.274	40.812	1.00	37.56	M	C
ATOM 6101	CB	THR	M	190	34.936	54.736	42.195	1.00	29.58	M	C
ATOM 6102	OG1	THR	M	190	34.195	55.884	42.603	1.00	29.58	M	O
ATOM 6103	CG2	THR	M	190	36.405	55.064	42.158	1.00	29.58	M	C
ATOM 6104	C	THR	M	190	33.551	55.319	40.149	1.00	36.04	M	C
ATOM 6105	O	THR	M	190	34.033	56.237	39.494	1.00	36.69	M	O
ATOM 6106	N	GLY	M	191	32.238	55.148	40.303	1.00	24.51	M	N
ATOM 6107	CA	GLY	M	191	31.276	56.064	39.708	1.00	25.96	M	C
ATOM 6108	C	GLY	M	191	29.859	55.513	39.744	1.00	26.16	M	C
ATOM 6109	O	GLY	M	191	29.584	54.583	40.498	1.00	28.87	M	O
ATOM 6110	N	TYR	M	192	28.956	56.077	38.944	1.00	27.08	M	N
ATOM 6111	CA	TYR	M	192	27.570	55.596	38.914	1.00	26.62	M	C
ATOM 6112	CB	TYR	M	192	26.582	56.762	38.776	1.00	34.64	M	C
ATOM 6113	CG	TYR	M	192	26.470	57.608	40.024	1.00	34.64	M	C
ATOM 6114	CD1	TYR	M	192	27.453	58.544	40.349	1.00	34.64	M	C
ATOM 6115	CE1	TYR	M	192	27.390	59.278	41.523	1.00	34.64	M	C
ATOM 6116	CD2	TYR	M	192	25.409	57.429	40.915	1.00	34.64	M	C
ATOM 6117	CE2	TYR	M	192	25.335	58.160	42.103	1.00	34.64	M	C
ATOM 6118	CZ	TYR	M	192	26.336	59.084	42.399	1.00	34.64	M	C
ATOM 6119	OH	TYR	M	192	26.298	59.790	43.581	1.00	34.64	M	O
ATOM 6120	C	TYR	M	192	27.347	54.607	37.775	1.00	24.86	M	C
ATOM 6121	O	TYR	M	192	27.781	54.833	36.647	1.00	25.91	M	O
ATOM 6122	N	PHE	M	193	26.670	53.505	38.070	1.00	23.06	M	N
ATOM 6123	CA	PHE	M	193	26.433	52.503	37.050	1.00	23.06	M	C
ATOM 6124	CB	PHE	M	193	27.339	51.289	37.263	1.00	33.42	M	C
ATOM 6125	CG	PHE	M	193	28.806	51.585	37.161	1.00	33.42	M	C
ATOM 6126	CD1	PHE	M	193	29.479	52.234	38.192	1.00	33.42	M	C
ATOM 6127	CD2	PHE	M	193	29.531	51.173	36.043	1.00	33.42	M	C
ATOM 6128	CE1	PHE	M	193	30.852	52.463	38.112	1.00	33.42	M	C
ATOM 6129	CE2	PHE	M	193	30.903	51.396	35.953	1.00	33.42	M	C
ATOM 6130	CZ	PHE	M	193	31.563	52.042	36.989	1.00	33.42	M	C
ATOM 6131	C	PHE	M	193	25.004	52.004	36.979	1.00	23.06	M	C
ATOM 6132	O	PHE	M	193	24.317	51.832	38.003	1.00	23.06	M	O
ATOM 6133	N	PHE	M	194	24.567	51.775	35.744	1.00	24.56	M	N
ATOM 6134	CA	PHE	M	194	23.251	51.225	35.482	1.00	25.04	M	C
ATOM 6135	CB	PHE	M	194	22.699	51.739	34.152	1.00	22.58	M	C

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Figure 8-94

ATOM 6136	CG	PHE	M	194	21.423	51.079	33.735	1.00	22.58	M	C
ATOM 6137	CD1	PHE	M	194	20.249	51.297	34.444	1.00	22.58	M	C
ATOM 6138	CD2	PHE	M	194	21.402	50.215	32.644	1.00	22.58	M	C
ATOM 6139	CE1	PHE	M	194	19.073	50.664	34.079	1.00	22.58	M	C
ATOM 6140	CE2	PHE	M	194	20.234	49.575	32.268	1.00	22.58	M	C
ATOM 6141	CZ	PHE	M	194	19.064	49.799	32.986	1.00	22.58	M	C
ATOM 6142	C	PHE	M	194	23.571	49.737	35.392	1.00	25.43	M	C
ATOM 6143	O	PHE	M	194	24.383	49.329	34.559	1.00	27.55	M	O
ATOM 6144	N	ILE	M	195	22.960	48.944	36.271	1.00	28.85	M	N
ATOM 6145	CA	ILE	M	195	23.195	47.508	36.305	1.00	26.06	M	C
ATOM 6146	CB	ILE	M	195	23.692	47.094	37.675	1.00	25.20	M	C
ATOM 6147	CG2	ILE	M	195	24.088	45.642	37.663	1.00	25.20	M	C
ATOM 6148	CG1	ILE	M	195	24.880	47.957	38.065	1.00	25.20	M	C
ATOM 6149	CD1	ILE	M	195	25.356	47.702	39.485	1.00	25.20	M	C
ATOM 6150	C	ILE	M	195	21.922	46.738	36.003	1.00	25.03	M	C
ATOM 6151	O	ILE	M	195	20.870	47.037	36.553	1.00	23.65	M	O
ATOM 6152	N	TYR	M	196	22.019	45.741	35.135	1.00	16.55	M	N
ATOM 6153	CA	TYR	M	196	20.849	44.943	34.766	1.00	21.08	M	C
ATOM 6154	CB	TYR	M	196	20.266	45.423	33.435	1.00	16.42	M	C
ATOM 6155	CG	TYR	M	196	21.259	45.384	32.310	1.00	11.31	M	C
ATOM 6156	CD1	TYR	M	196	22.203	46.388	32.163	1.00	14.62	M	C
ATOM 6157	CE1	TYR	M	196	23.168	46.335	31.132	1.00	12.98	M	C
ATOM 6158	CD2	TYR	M	196	21.284	44.321	31.413	1.00	14.76	M	C
ATOM 6159	CE2	TYR	M	196	22.236	44.252	30.379	1.00	17.93	M	C
ATOM 6160	CZ	TYR	M	196	23.173	45.261	30.246	1.00	14.04	M	C
ATOM 6161	OH	TYR	M	196	24.110	45.202	29.241	1.00	14.27	M	O
ATOM 6162	C	TYR	M	196	21.177	43.459	34.646	1.00	22.33	M	C
ATOM 6163	O	TYR	M	196	22.287	43.074	34.259	1.00	19.54	M	O
ATOM 6164	N	GLY	M	197	20.191	42.632	34.968	1.00	23.86	M	N
ATOM 6165	CA	GLY	M	197	20.381	41.202	34.894	1.00	22.68	M	C
ATOM 6166	C	GLY	M	197	19.075	40.466	34.679	1.00	23.43	M	C
ATOM 6167	O	GLY	M	197	18.055	40.777	35.298	1.00	21.77	M	O
ATOM 6168	N	GLN	M	198	19.106	39.483	33.790	1.00	34.48	M	N
ATOM 6169	CA	GLN	M	198	17.925	38.690	33.501	1.00	37.17	M	C
ATOM 6170	CB	GLN	M	198	17.266	39.161	32.202	1.00	20.36	M	C
ATOM 6171	CG	GLN	M	198	16.206	38.205	31.697	1.00	23.46	M	C
ATOM 6172	CD	GLN	M	198	15.592	38.654	30.397	1.00	26.72	M	C
ATOM 6173	OE1	GLN	M	198	15.025	39.732	30.324	1.00	25.38	M	O
ATOM 6174	NE2	GLN	M	198	15.696	37.826	29.359	1.00	23.97	M	N
ATOM 6175	C	GLN	M	198	18.277	37.218	33.369	1.00	37.12	M	C
ATOM 6176	O	GLN	M	198	19.318	36.866	32.816	1.00	37.95	M	O
ATOM 6177	N	VAL	M	199	17.412	36.360	33.891	1.00	15.92	M	N
ATOM 6178	CA	VAL	M	199	17.619	34.925	33.779	1.00	19.07	M	C
ATOM 6179	CB	VAL	M	199	18.345	34.322	35.033	1.00	8.39	M	C
ATOM 6180	CG1	VAL	M	199	18.262	35.267	36.203	1.00	7.15	M	C
ATOM 6181	CG2	VAL	M	199	17.751	32.974	35.394	1.00	9.86	M	C
ATOM 6182	C	VAL	M	199	16.279	34.232	33.545	1.00	21.20	M	C
ATOM 6183	O	VAL	M	199	15.242	34.639	34.096	1.00	19.92	M	O
ATOM 6184	N	LEU	M	200	16.303	33.207	32.692	1.00	18.72	M	N
ATOM 6185	CA	LEU	M	200	15.102	32.449	32.375	1.00	17.78	M	C
ATOM 6186	CB	LEU	M	200	15.142	31.990	30.915	1.00	9.21	M	C
ATOM 6187	CG	LEU	M	200	14.132	30.911	30.486	1.00	9.21	M	C
ATOM 6188	CD1	LEU	M	200	12.728	31.178	31.058	1.00	9.21	M	C
ATOM 6189	CD2	LEU	M	200	14.109	30.847	28.953	1.00	9.21	M	C
ATOM 6190	C	LEU	M	200	14.981	31.252	33.301	1.00	18.76	M	C
ATOM 6191	O	LEU	M	200	15.751	30.298	33.202	1.00	20.18	M	O
ATOM 6192	N	TYR	M	201	14.019	31.316	34.215	1.00	29.20	M	N
ATOM 6193	CA	TYR	M	201	13.784	30.234	35.161	1.00	29.46	M	C
ATOM 6194	CB	TYR	M	201	13.117	30.783	36.404	1.00	30.05	M	C
ATOM 6195	CG	TYR	M	201	14.037	31.725	37.103	1.00	30.05	M	C
ATOM 6196	CD1	TYR	M	201	15.206	31.258	37.673	1.00	30.05	M	C
ATOM 6197	CE1	TYR	M	201	16.121	32.119	38.244	1.00	30.05	M	C
ATOM 6198	CD2	TYR	M	201	13.789	33.087	37.123	1.00	30.05	M	C
ATOM 6199	CE2	TYR	M	201	14.697	33.969	37.691	1.00	30.05	M	C
ATOM 6200	CZ	TYR	M	201	15.870	33.475	38.249	1.00	30.05	M	C
ATOM 6201	OH	TYR	M	201	16.816	34.322	38.785	1.00	30.05	M	O

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ATOM 6202	C	TYR	M	201	12.945	29.143	34.535	1.00	28.90	M	C
ATOM 6203	O	TYR	M	201	11.877	29.387	33.989	1.00	28.36	M	O
ATOM 6204	N	THR	M	202	13.463	27.929	34.610	1.00	24.27	M	N
ATOM 6205	CA	THR	M	202	12.811	26.776	34.032	1.00	29.52	M	C
ATOM 6206	CB	THR	M	202	13.687	26.225	32.885	1.00	46.33	M	C
ATOM 6207	OG1	THR	M	202	12.998	25.167	32.227	1.00	46.33	M	O
ATOM 6208	CG2	THR	M	202	15.004	25.705	33.407	1.00	46.33	M	C
ATOM 6209	C	THR	M	202	12.592	25.735	35.133	1.00	28.16	M	C
ATOM 6210	O	THR	M	202	12.331	24.566	34.879	1.00	27.29	M	O
ATOM 6211	N	ASP	M	203	12.699	26.194	36.371	1.00	50.35	M	N
ATOM 6212	CA	ASP	M	203	12.518	25.354	37.547	1.00	50.35	M	C
ATOM 6213	CB	ASP	M	203	13.448	25.868	38.654	1.00	70.91	M	C
ATOM 6214	CG	ASP	M	203	13.334	25.082	39.938	1.00	70.91	M	C
ATOM 6215	OD1	ASP	M	203	14.305	25.086	40.721	1.00	70.91	M	O
ATOM 6216	OD2	ASP	M	203	12.275	24.472	40.179	1.00	70.91	M	O
ATOM 6217	C	ASP	M	203	11.046	25.445	37.962	1.00	50.35	M	C
ATOM 6218	O	ASP	M	203	10.398	26.459	37.715	1.00	50.35	M	O
ATOM 6219	N	LYS	M	204	10.504	24.396	38.574	1.00	40.47	M	N
ATOM 6220	CA	LYS	M	204	9.107	24.446	38.979	1.00	40.47	M	C
ATOM 6221	CB	LYS	M	204	8.362	23.206	38.478	1.00	57.14	M	C
ATOM 6222	CG	LYS	M	204	8.817	21.909	39.083	1.00	57.14	M	C
ATOM 6223	CD	LYS	M	204	8.043	20.740	38.494	1.00	57.14	M	C
ATOM 6224	CE	LYS	M	204	8.319	20.583	37.001	1.00	57.14	M	C
ATOM 6225	NZ	LYS	M	204	7.570	19.438	36.401	1.00	57.14	M	N
ATOM 6226	C	LYS	M	204	8.831	24.656	40.473	1.00	40.47	M	C
ATOM 6227	O	LYS	M	204	7.742	24.346	40.951	1.00	40.47	M	O
ATOM 6228	N	THR	M	205	9.798	25.197	41.209	1.00	44.30	M	N
ATOM 6229	CA	THR	M	205	9.591	25.462	42.638	1.00	44.30	M	C
ATOM 6230	CB	THR	M	205	10.920	25.798	43.356	1.00	62.10	M	C
ATOM 6231	OG1	THR	M	205	11.379	27.089	42.941	1.00	62.10	M	O
ATOM 6232	CG2	THR	M	205	11.979	24.774	43.014	1.00	62.10	M	C
ATOM 6233	C	THR	M	205	8.641	26.664	42.746	1.00	44.30	M	C
ATOM 6234	O	THR	M	205	8.619	27.503	41.852	1.00	44.30	M	O
ATOM 6235	N	TYR	M	206	7.871	26.755	43.830	1.00	40.74	M	N
ATOM 6236	CA	TYR	M	206	6.907	27.847	43.998	1.00	40.74	M	C
ATOM 6237	CB	TYR	M	206	6.500	28.014	45.473	1.00	69.79	M	C
ATOM 6238	CG	TYR	M	206	7.526	28.674	46.364	1.00	69.79	M	C
ATOM 6239	CD1	TYR	M	206	7.156	29.676	47.260	1.00	69.79	M	C
ATOM 6240	CE1	TYR	M	206	8.088	30.273	48.100	1.00	69.79	M	C
ATOM 6241	CD2	TYR	M	206	8.857	28.282	46.332	1.00	69.79	M	C
ATOM 6242	CE2	TYR	M	206	9.799	28.868	47.166	1.00	69.79	M	C
ATOM 6243	CZ	TYR	M	206	9.410	29.865	48.050	1.00	69.79	M	C
ATOM 6244	OH	TYR	M	206	10.349	30.456	48.875	1.00	69.79	M	O
ATOM 6245	C	TYR	M	206	7.370	29.197	43.450	1.00	40.74	M	C
ATOM 6246	O	TYR	M	206	6.594	29.911	42.812	1.00	40.74	M	O
ATOM 6247	N	ALA	M	207	8.629	29.549	43.686	1.00	22.09	M	N
ATOM 6248	CA	ALA	M	207	9.137	30.821	43.202	1.00	22.09	M	C
ATOM 6249	CB	ALA	M	207	8.773	31.907	44.176	1.00	23.96	M	C
ATOM 6250	C	ALA	M	207	10.642	30.800	42.978	1.00	22.09	M	C
ATOM 6251	O	ALA	M	207	11.381	30.182	43.735	1.00	22.09	M	O
ATOM 6252	N	MET	M	208	11.080	31.480	41.924	1.00	38.97	M	N
ATOM 6253	CA	MET	M	208	12.495	31.562	41.577	1.00	38.97	M	C
ATOM 6254	CB	MET	M	208	12.767	30.817	40.268	1.00	37.35	M	C
ATOM 6255	CG	MET	M	208	12.611	29.312	40.375	1.00	37.35	M	C
ATOM 6256	SD	MET	M	208	13.795	28.612	41.537	1.00	37.35	M	S
ATOM 6257	CE	MET	M	208	15.248	28.481	40.456	1.00	37.35	M	C
ATOM 6258	C	MET	M	208	12.894	33.023	41.423	1.00	38.97	M	C
ATOM 6259	O	MET	M	208	12.035	33.906	41.378	1.00	38.97	M	O
ATOM 6260	N	GLY	M	209	14.194	33.278	41.343	1.00	35.03	M	N
ATOM 6261	CA	GLY	M	209	14.653	34.646	41.193	1.00	35.03	M	C
ATOM 6262	C	GLY	M	209	16.140	34.767	41.421	1.00	35.03	M	C
ATOM 6263	O	GLY	M	209	16.784	33.802	41.822	1.00	35.03	M	O
ATOM 6264	N	HIS	M	210	16.698	35.944	41.162	1.00	22.09	M	N
ATOM 6265	CA	HIS	M	210	18.125	36.141	41.358	1.00	22.09	M	C
ATOM 6266	CB	HIS	M	210	18.889	36.125	40.022	1.00	25.72	M	C
ATOM 6267	CG	HIS	M	210	18.357	37.078	38.997	1.00	25.72	M	C

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ATOM 6268	CD2	HIS	M	210	18.926	38.149	38.397	1.00	25.72	M	C
ATOM 6269	ND1	HIS	M	210	17.104	36.944	38.431	1.00	25.72	M	N
ATOM 6270	CE1	HIS	M	210	16.929	37.889	37.524	1.00	25.72	M	C
ATOM 6271	NE2	HIS	M	210	18.019	38.634	37.484	1.00	25.72	M	N
ATOM 6272	C	HIS	M	210	18.439	37.417	42.083	1.00	22.09	M	C
ATOM 6273	O	HIS	M	210	17.594	38.296	42.233	1.00	22.09	M	O
ATOM 6274	N	LEU	M	211	19.681	37.504	42.532	1.00	18.47	M	N
ATOM 6275	CA	LEU	M	211	20.165	38.665	43.248	1.00	20.44	M	C
ATOM 6276	CB	LEU	M	211	20.681	38.256	44.617	1.00	29.55	M	C
ATOM 6277	CG	LEU	M	211	19.854	37.233	45.367	1.00	28.81	M	C
ATOM 6278	CD1	LEU	M	211	20.682	36.702	46.507	1.00	28.81	M	C
ATOM 6279	CD2	LEU	M	211	18.567	37.866	45.859	1.00	28.81	M	C
ATOM 6280	C	LEU	M	211	21.331	39.245	42.476	1.00	21.52	M	C
ATOM 6281	O	LEU	M	211	22.240	38.518	42.081	1.00	24.51	M	O
ATOM 6282	N	ILE	M	212	21.297	40.543	42.230	1.00	25.83	M	N
ATOM 6283	CA	ILE	M	212	22.413	41.182	41.569	1.00	23.54	M	C
ATOM 6284	CB	ILE	M	212	21.960	42.287	40.622	1.00	23.21	M	C
ATOM 6285	CG2	ILE	M	212	23.139	43.142	40.215	1.00	30.02	M	C
ATOM 6286	CG1	ILE	M	212	21.299	41.657	39.391	1.00	30.02	M	C
ATOM 6287	CD1	ILE	M	212	20.723	42.665	38.410	1.00	30.02	M	C
ATOM 6288	C	ILE	M	212	23.097	41.756	42.787	1.00	21.49	M	C
ATOM 6289	O	ILE	M	212	22.611	42.710	43.387	1.00	22.49	M	O
ATOM 6290	N	GLN	M	213	24.204	41.139	43.178	1.00	28.15	M	N
ATOM 6291	CA	GLN	M	213	24.927	41.558	44.371	1.00	29.33	M	C
ATOM 6292	CB	GLN	M	213	25.229	40.341	45.241	1.00	51.08	M	C
ATOM 6293	CG	GLN	M	213	24.050	39.435	45.458	1.00	57.51	M	C
ATOM 6294	CD	GLN	M	213	24.415	38.235	46.291	1.00	57.51	M	C
ATOM 6295	OE1	GLN	M	213	25.365	37.515	45.984	1.00	57.51	M	O
ATOM 6296	NE2	GLN	M	213	23.662	38.007	47.351	1.00	57.51	M	N
ATOM 6297	C	GLN	M	213	26.227	42.312	44.133	1.00	27.30	M	C
ATOM 6298	O	GLN	M	213	26.887	42.179	43.099	1.00	26.02	M	O
ATOM 6299	N	ARG	M	214	26.595	43.088	45.139	1.00	31.92	M	N
ATOM 6300	CA	ARG	M	214	27.805	43.887	45.123	1.00	32.49	M	C
ATOM 6301	CB	ARG	M	214	27.450	45.325	45.447	1.00	34.28	M	C
ATOM 6302	CG	ARG	M	214	28.642	46.212	45.618	1.00	26.26	M	C
ATOM 6303	CD	ARG	M	214	28.223	47.529	46.212	1.00	26.26	M	C
ATOM 6304	NE	ARG	M	214	29.334	48.470	46.257	1.00	26.26	M	N
ATOM 6305	CZ	ARG	M	214	29.373	49.523	47.065	1.00	26.26	M	C
ATOM 6306	NH1	ARG	M	214	28.352	49.746	47.886	1.00	26.26	M	N
ATOM 6307	NH2	ARG	M	214	30.425	50.340	47.058	1.00	26.26	M	N
ATOM 6308	C	ARG	M	214	28.796	43.373	46.166	1.00	31.14	M	C
ATOM 6309	O	ARG	M	214	28.471	43.301	47.355	1.00	32.16	M	O
ATOM 6310	N	LYS	M	215	29.994	43.012	45.720	1.00	30.43	M	N
ATOM 6311	CA	LYS	M	215	31.051	42.522	46.612	1.00	35.08	M	C
ATOM 6312	CB	LYS	M	215	31.839	41.413	45.920	1.00	142.37	M	C
ATOM 6313	CG	LYS	M	215	32.530	40.439	46.849	1.00	84.57	M	C
ATOM 6314	CD	LYS	M	215	33.383	39.467	46.034	1.00	84.57	M	C
ATOM 6315	CE	LYS	M	215	33.843	38.264	46.847	1.00	84.57	M	C
ATOM 6316	NZ	LYS	M	215	32.713	37.345	47.161	1.00	84.57	M	N
ATOM 6317	C	LYS	M	215	31.949	43.738	46.849	1.00	33.32	M	C
ATOM 6318	O	LYS	M	215	32.744	44.107	45.983	1.00	32.42	M	O
ATOM 6319	N	LYS	M	216	31.808	44.367	48.013	1.00	46.88	M	N
ATOM 6320	CA	LYS	M	216	32.572	45.572	48.355	1.00	46.88	M	C
ATOM 6321	CB	LYS	M	216	31.890	46.313	49.505	1.00	76.91	M	C
ATOM 6322	CG	LYS	M	216	30.497	46.793	49.187	1.00	60.58	M	C
ATOM 6323	CD	LYS	M	216	29.899	47.611	50.323	1.00	60.58	M	C
ATOM 6324	CE	LYS	M	216	29.571	46.752	51.526	1.00	60.58	M	C
ATOM 6325	NZ	LYS	M	216	28.872	47.527	52.593	1.00	60.58	M	N
ATOM 6326	C	LYS	M	216	34.029	45.347	48.734	1.00	46.88	M	C
ATOM 6327	O	LYS	M	216	34.359	44.369	49.401	1.00	46.88	M	O
ATOM 6328	N	VAL	M	217	34.900	46.262	48.318	1.00	66.03	M	N
ATOM 6329	CA	VAL	M	217	36.319	46.157	48.654	1.00	66.03	M	C
ATOM 6330	CB	VAL	M	217	37.224	46.901	47.648	1.00	48.81	M	C
ATOM 6331	CG1	VAL	M	217	37.304	46.130	46.376	1.00	48.81	M	C
ATOM 6332	CG2	VAL	M	217	36.692	48.302	47.387	1.00	48.81	M	C
ATOM 6333	C	VAL	M	217	36.554	46.767	50.023	1.00	66.03	M	C

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ATOM 6334	O	VAL	M	217	37.477	46.384	50.738	1.00	66.03	M	O
ATOM 6335	N	HIS	M	218	35.712	47.727	50.379	1.00	77.18	M	N
ATOM 6336	CA	HIS	M	218	35.826	48.389	51.664	1.00	77.18	M	C
ATOM 6337	CB	HIS	M	218	35.840	49.904	51.501	1.00109.92		M	C
ATOM 6338	CG	HIS	M	218	36.951	50.407	50.642	1.00109.92		M	C
ATOM 6339	CD2	HIS	M	218	37.032	51.490	49.835	1.00109.92		M	C
ATOM 6340	ND1	HIS	M	218	38.182	49.791	50.586	1.00109.92		M	N
ATOM 6341	CE1	HIS	M	218	38.975	50.473	49.780	1.00109.92		M	C
ATOM 6342	NE2	HIS	M	218	38.301	51.509	49.311	1.00109.92		M	N
ATOM 6343	C	HIS	M	218	34.697	48.047	52.598	1.00	77.18	M	C
ATOM 6344	O	HIS	M	218	33.523	48.059	52.222	1.00	77.18	M	O
ATOM 6345	N	VAL	M	219	35.077	47.783	53.838	1.00	54.07	M	N
ATOM 6346	CA	VAL	M	219	34.126	47.487	54.888	1.00	54.07	M	C
ATOM 6347	CB	VAL	M	219	33.996	45.964	55.139	1.00	36.76	M	C
ATOM 6348	CG1	VAL	M	219	33.124	45.321	54.050	1.00	36.76	M	C
ATOM 6349	CG2	VAL	M	219	35.382	45.325	55.148	1.00	36.76	M	C
ATOM 6350	C	VAL	M	219	34.662	48.188	56.126	1.00	54.07	M	C
ATOM 6351	O	VAL	M	219	35.640	47.754	56.721	1.00	54.07	M	O
ATOM 6352	N	PHE	M	220	34.047	49.311	56.473	1.00	79.71	M	N
ATOM 6353	CA	PHE	M	220	34.452	50.081	57.640	1.00	79.71	M	C
ATOM 6354	CB	PHE	M	220	34.809	51.527	57.248	1.00108.04		M	C
ATOM 6355	CG	PHE	M	220	35.750	51.659	56.057	1.00108.04		M	C
ATOM 6356	CD1	PHE	M	220	35.939	52.905	55.457	1.00108.04		M	C
ATOM 6357	CD2	PHE	M	220	36.460	50.569	55.552	1.00108.04		M	C
ATOM 6358	CE1	PHE	M	220	36.815	53.069	54.380	1.00108.04		M	C
ATOM 6359	CE2	PHE	M	220	37.342	50.723	54.470	1.00108.04		M	C
ATOM 6360	CZ	PHE	M	220	37.517	51.977	53.887	1.00108.04		M	C
ATOM 6361	C	PHE	M	220	33.225	50.094	58.552	1.00	79.71	M	C
ATOM 6362	O	PHE	M	220	32.146	50.507	58.133	1.00	79.71	M	O
ATOM 6363	N	GLY	M	221	33.371	49.635	59.788	1.00	63.47	M	N
ATOM 6364	CA	GLY	M	221	32.225	49.624	60.681	1.00	63.47	M	C
ATOM 6365	C	GLY	M	221	31.422	48.332	60.651	1.00	63.47	M	C
ATOM 6366	O	GLY	M	221	31.947	47.253	60.935	1.00	63.47	M	O
ATOM 6367	N	ASP	M	222	30.145	48.424	60.305	1.00106.53		M	N
ATOM 6368	CA	ASP	M	222	29.311	47.232	60.271	1.00106.53		M	C
ATOM 6369	CB	ASP	M	222	27.896	47.567	60.749	1.00117.48		M	C
ATOM 6370	CG	ASP	M	222	27.879	48.658	61.801	1.00117.48		M	C
ATOM 6371	OD1	ASP	M	222	28.298	49.788	61.477	1.00117.48		M	O
ATOM 6372	OD2	ASP	M	222	27.448	48.389	62.943	1.00117.48		M	O
ATOM 6373	C	ASP	M	222	29.249	46.634	58.868	1.00106.53		M	C
ATOM 6374	O	ASP	M	222	29.107	45.422	58.711	1.00106.53		M	O
ATOM 6375	N	GLU	M	223	29.367	47.493	57.858	1.00	81.23	M	N
ATOM 6376	CA	GLU	M	223	29.301	47.090	56.453	1.00	81.23	M	C
ATOM 6377	CB	GLU	M	223	30.294	47.908	55.624	1.00108.42		M	C
ATOM 6378	CG	GLU	M	223	29.815	49.297	55.253	1.00108.42		M	C
ATOM 6379	CD	GLU	M	223	30.544	49.848	54.040	1.00108.42		M	C
ATOM 6380	OE1	GLU	M	223	31.777	50.025	54.115	1.00108.42		M	O
ATOM 6381	OE2	GLU	M	223	29.887	50.098	53.006	1.00108.42		M	O
ATOM 6382	C	GLU	M	223	29.500	45.610	56.120	1.00	81.23	M	C
ATOM 6383	O	GLU	M	223	30.578	45.056	56.338	1.00	81.23	M	O
ATOM 6384	N	LEU	M	224	28.455	44.977	55.590	1.00	45.92	M	N
ATOM 6385	CA	LEU	M	224	28.539	43.572	55.186	1.00	45.92	M	C
ATOM 6386	CB	LEU	M	224	27.144	43.004	54.886	1.00	50.52	M	C
ATOM 6387	CG	LEU	M	224	26.094	42.887	55.996	1.00	50.52	M	C
ATOM 6388	CD1	LEU	M	224	26.500	41.825	56.990	1.00	50.52	M	C
ATOM 6389	CD2	LEU	M	224	25.923	44.222	56.681	1.00	50.52	M	C
ATOM 6390	C	LEU	M	224	29.352	43.649	53.901	1.00	45.92	M	C
ATOM 6391	O	LEU	M	224	29.195	44.607	53.156	1.00	45.92	M	O
ATOM 6392	N	SER	M	225	30.202	42.667	53.611	1.00	34.22	M	N
ATOM 6393	CA	SER	M	225	30.988	42.805	52.394	1.00	34.22	M	C
ATOM 6394	CB	SER	M	225	32.213	41.885	52.417	1.00	96.80	M	C
ATOM 6395	OG	SER	M	225	31.843	40.526	52.529	1.00	96.80	M	O
ATOM 6396	C	SER	M	225	30.161	42.567	51.138	1.00	34.22	M	C
ATOM 6397	O	SER	M	225	30.391	43.208	50.121	1.00	34.22	M	O
ATOM 6398	N	LEU	M	226	29.188	41.667	51.214	1.00	30.14	M	N
ATOM 6399	CA	LEU	M	226	28.348	41.368	50.061	1.00	28.91	M	C

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Figure 8-98

ATOM 6400	CB	LEU	M	226	28.298	39.859	49.799	1.00	35.04	M	C
ATOM 6401	CG	LEU	M	226	27.567	39.419	48.528	1.00	35.04	M	C
ATOM 6402	CD1	LEU	M	226	28.378	39.841	47.307	1.00	35.04	M	C
ATOM 6403	CD2	LEU	M	226	27.367	37.917	48.539	1.00	35.04	M	C
ATOM 6404	C	LEU	M	226	26.938	41.853	50.317	1.00	24.38	M	C
ATOM 6405	O	LEU	M	226	26.290	41.399	51.253	1.00	25.15	M	O
ATOM 6406	N	VAL	M	227	26.455	42.769	49.487	1.00	58.84	M	N
ATOM 6407	CA	VAL	M	227	25.097	43.272	49.645	1.00	53.84	M	C
ATOM 6408	CB	VAL	M	227	25.097	44.741	50.060	1.00	58.65	M	C
ATOM 6409	CG1	VAL	M	227	25.833	44.895	51.371	1.00	58.65	M	C
ATOM 6410	CG2	VAL	M	227	25.762	45.580	48.990	1.00	58.65	M	C
ATOM 6411	C	VAL	M	227	24.367	43.135	48.326	1.00	49.67	M	C
ATOM 6412	O	VAL	M	227	24.966	43.304	47.262	1.00	40.58	M	O
ATOM 6413	N	THR	M	228	23.080	42.819	48.370	1.00	32.61	M	N
ATOM 6414	CA	THR	M	228	22.370	42.687	47.110	1.00	34.32	M	C
ATOM 6415	CB	THR	M	228	21.283	41.563	47.162	1.00	31.81	M	C
ATOM 6416	OG1	THR	M	228	19.991	42.152	47.316	1.00	31.81	M	O
ATOM 6417	CG2	THR	M	228	21.546	40.597	48.306	1.00	31.81	M	C
ATOM 6418	C	THR	M	228	21.752	44.036	46.730	1.00	32.61	M	C
ATOM 6419	O	THR	M	228	21.056	44.655	47.522	1.00	34.63	M	O
ATOM 6420	N	LEU	M	229	22.052	44.496	45.519	1.00	27.78	M	N
ATOM 6421	CA	LEU	M	229	21.537	45.758	45.003	1.00	24.47	M	C
ATOM 6422	CB	LEU	M	229	22.389	46.217	43.826	1.00	13.79	M	C
ATOM 6423	CG	LEU	M	229	23.680	46.991	44.121	1.00	13.79	M	C
ATOM 6424	CD1	LEU	M	229	24.086	46.830	45.559	1.00	13.79	M	C
ATOM 6425	CD2	LEU	M	229	24.789	46.509	43.183	1.00	13.79	M	C
ATOM 6426	C	LEU	M	229	20.084	45.632	44.567	1.00	24.36	M	C
ATOM 6427	O	LEU	M	229	19.229	46.374	45.035	1.00	24.71	M	O
ATOM 6428	N	PHE	M	230	19.809	44.696	43.667	1.00	36.42	M	N
ATOM 6429	CA	PHE	M	230	18.451	44.488	43.193	1.00	36.16	M	C
ATOM 6430	CB	PHE	M	230	18.263	45.096	41.809	1.00	67.37	M	C
ATOM 6431	CG	PHE	M	230	19.070	46.315	41.590	1.00	67.37	M	C
ATOM 6432	CD1	PHE	M	230	20.247	46.250	40.857	1.00	67.37	M	C
ATOM 6433	CD2	PHE	M	230	18.697	47.522	42.182	1.00	67.37	M	C
ATOM 6434	CE1	PHE	M	230	21.054	47.373	40.717	1.00	67.37	M	C
ATOM 6435	CE2	PHE	M	230	19.489	48.655	42.054	1.00	67.37	M	C
ATOM 6436	CZ	PHE	M	230	20.676	48.584	41.321	1.00	67.37	M	C
ATOM 6437	C	PHE	M	230	18.192	43.008	43.100	1.00	38.05	M	C
ATOM 6438	O	PHE	M	230	19.129	42.216	42.994	1.00	36.81	M	O
ATOM 6439	N	ARG	M	231	16.921	42.630	43.157	1.00	21.47	M	N
ATOM 6440	CA	ARG	M	231	16.568	41.232	43.022	1.00	23.31	M	C
ATOM 6441	CB	ARG	M	231	16.435	40.550	44.385	1.00	28.53	M	C
ATOM 6442	CG	ARG	M	231	15.336	41.046	45.279	1.00	28.53	M	C
ATOM 6443	CD	ARG	M	231	15.591	40.532	46.696	1.00	32.57	M	C
ATOM 6444	NE	ARG	M	231	14.452	40.722	47.593	1.00	39.91	M	N
ATOM 6445	CZ	ARG	M	231	13.354	39.978	47.556	1.00	50.41	M	C
ATOM 6446	NH1	ARG	M	231	13.257	38.992	46.670	1.00	46.64	M	N
ATOM 6447	NH2	ARG	M	231	12.351	40.235	48.385	1.00	51.18	M	N
ATOM 6448	C	ARG	M	231	15.301	41.076	42.199	1.00	25.45	M	C
ATOM 6449	O	ARG	M	231	14.496	42.002	42.061	1.00	28.44	M	O
ATOM 6450	N	CYS	M	232	15.160	39.884	41.636	1.00	39.93	M	N
ATOM 6451	CA	CYS	M	232	14.054	39.538	40.771	1.00	39.87	M	C
ATOM 6452	C	CYS	M	232	13.400	38.309	41.355	1.00	43.33	M	C
ATOM 6453	O	CYS	M	232	14.088	37.420	41.846	1.00	44.76	M	O
ATOM 6454	CB	CYS	M	232	14.607	39.204	39.392	1.00	33.34	M	C
ATOM 6455	SG	CYS	M	232	13.567	39.727	38.013	1.00	33.34	M	S
ATOM 6456	N	ILE	M	233	12.076	38.248	41.305	1.00	8.56	M	N
ATOM 6457	CA	ILE	M	233	11.370	37.083	41.834	1.00	10.26	M	C
ATOM 6458	CB	ILE	M	233	10.900	37.306	43.303	1.00	24.40	M	C
ATOM 6459	CG2	ILE	M	233	9.890	38.445	43.375	1.00	24.40	M	C
ATOM 6460	CG1	ILE	M	233	10.241	36.041	43.838	1.00	24.40	M	C
ATOM 6461	CD1	ILE	M	233	11.145	34.869	43.873	1.00	24.40	M	C
ATOM 6462	C	ILE	M	233	10.172	36.777	40.946	1.00	14.74	M	C
ATOM 6463	O	ILE	M	233	9.428	37.675	40.543	1.00	15.20	M	O
ATOM 6464	N	GLN	M	234	9.988	35.498	40.645	1.00	20.99	M	N
ATOM 6465	CA	GLN	M	234	8.895	35.081	39.785	1.00	24.88	M	C

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Figure 8-99

ATOM 6466	CB	GLN	M	234	9.442	34.902	38.366	1.00	38.84	M	C
ATOM 6467	CG	GLN	M	234	8.410	34.937	37.270	1.00	38.84	M	C
ATOM 6468	CD	GLN	M	234	7.832	36.324	37.036	1.00	38.84	M	C
ATOM 6469	OE1	GLN	M	234	6.788	36.472	36.396	1.00	38.84	M	O
ATOM 6470	NE2	GLN	M	234	8.509	37.344	37.546	1.00	38.84	M	N
ATOM 6471	C	GLN	M	234	8.270	33.775	40.303	1.00	25.83	M	C
ATOM 6472	O	GLN	M	234	8.983	32.852	40.683	1.00	25.81	M	O
ATOM 6473	N	ASN	M	235	6.941	33.709	40.356	1.00	29.36	M	N
ATOM 6474	CA	ASN	M	235	6.269	32.489	40.802	1.00	32.80	M	C
ATOM 6475	CB	ASN	M	235	4.791	32.739	41.134	1.00	18.11	M	C
ATOM 6476	CG	ASN	M	235	4.586	33.362	42.503	1.00	18.11	M	C
ATOM 6477	OD1	ASN	M	235	5.009	32.809	43.514	1.00	18.11	M	O
ATOM 6478	ND2	ASN	M	235	3.925	34.514	42.544	1.00	18.11	M	N
ATOM 6479	C	ASN	M	235	6.359	31.538	39.621	1.00	30.70	M	C
ATOM 6480	O	ASN	M	235	6.274	31.966	38.467	1.00	28.01	M	O
ATOM 6481	N	MET	M	236	6.540	30.254	39.903	1.00	44.66	M	N
ATOM 6482	CA	MET	M	236	6.654	29.253	38.850	1.00	44.66	M	C
ATOM 6483	CB	MET	M	236	7.951	28.468	39.021	1.00	30.16	M	C
ATOM 6484	CG	MET	M	236	9.210	29.316	38.972	1.00	30.16	M	C
ATOM 6485	SD	MET	M	236	9.456	30.065	37.352	1.00	30.16	M	S
ATOM 6486	CE	MET	M	236	8.939	31.657	37.709	1.00	30.16	M	C
ATOM 6487	C	MET	M	236	5.486	28.286	38.894	1.00	44.66	M	C
ATOM 6488	O	MET	M	236	5.002	27.938	39.963	1.00	44.66	M	O
ATOM 6489	N	PRO	M	237	5.018	27.832	37.728	1.00	28.11	M	N
ATOM 6490	CD	PRO	M	237	5.410	28.279	36.382	1.00	19.70	M	C
ATOM 6491	CA	PRO	M	237	3.898	26.890	37.644	1.00	28.11	M	C
ATOM 6492	CB	PRO	M	237	3.396	27.096	36.228	1.00	19.70	M	C
ATOM 6493	CG	PRO	M	237	4.654	27.298	35.481	1.00	19.70	M	C
ATOM 6494	C	PRO	M	237	4.341	25.446	37.891	1.00	28.11	M	C
ATOM 6495	O	PRO	M	237	5.536	25.160	37.982	1.00	28.11	M	O
ATOM 6496	N	GLU	M	238	3.369	24.543	37.994	1.00	52.45	M	N
ATOM 6497	CA	GLU	M	238	3.644	23.126	38.225	1.00	52.45	M	C
ATOM 6498	CB	GLU	M	238	2.356	22.408	38.633	1.00	119.68	M	C
ATOM 6499	CG	GLU	M	238	1.839	22.805	39.998	1.00	119.68	M	C
ATOM 6500	CD	GLU	M	238	2.753	22.347	41.115	1.00	119.68	M	C
ATOM 6501	OE1	GLU	M	238	3.966	22.647	41.057	1.00	119.68	M	O
ATOM 6502	OE2	GLU	M	238	2.256	21.687	42.053	1.00	119.68	M	O
ATOM 6503	C	GLU	M	238	4.238	22.443	36.991	1.00	52.45	M	C
ATOM 6504	O	GLU	M	238	5.185	21.658	37.090	1.00	52.45	M	O
ATOM 6505	N	THR	M	239	3.678	22.753	35.827	1.00	33.38	M	N
ATOM 6506	CA	THR	M	239	4.137	22.159	34.582	1.00	33.38	M	C
ATOM 6507	CB	THR	M	239	2.992	21.392	33.885	1.00	44.46	M	C
ATOM 6508	OG1	THR	M	239	1.945	22.304	33.536	1.00	44.46	M	O
ATOM 6509	CG2	THR	M	239	2.433	20.323	34.812	1.00	44.46	M	C
ATOM 6510	C	THR	M	239	4.697	23.195	33.613	1.00	33.38	M	C
ATOM 6511	O	THR	M	239	4.299	24.358	33.634	1.00	33.38	M	O
ATOM 6512	N	LEU	M	240	5.624	22.753	32.769	1.00	41.04	M	N
ATOM 6513	CA	LEU	M	240	6.267	23.611	31.786	1.00	41.04	M	C
ATOM 6514	CB	LEU	M	240	5.327	23.870	30.605	1.00	44.28	M	C
ATOM 6515	CG	LEU	M	240	4.963	22.704	29.682	1.00	44.28	M	C
ATOM 6516	CD1	LEU	M	240	6.214	22.089	29.087	1.00	44.28	M	C
ATOM 6517	CD2	LEU	M	240	4.201	21.672	30.473	1.00	44.28	M	C
ATOM 6518	C	LEU	M	240	6.728	24.948	32.357	1.00	41.04	M	C
ATOM 6519	O	LEU	M	240	6.476	25.999	31.760	1.00	41.04	M	O
ATOM 6520	N	PRO	M	241	7.408	24.938	33.516	1.00	45.84	M	N
ATOM 6521	CD	PRO	M	241	8.041	23.827	34.235	1.00	32.61	M	C
ATOM 6522	CA	PRO	M	241	7.852	26.221	34.062	1.00	41.83	M	C
ATOM 6523	CB	PRO	M	241	8.651	25.812	35.296	1.00	32.61	M	C
ATOM 6524	CG	PRO	M	241	9.215	24.506	34.888	1.00	32.61	M	C
ATOM 6525	C	PRO	M	241	8.697	26.941	33.010	1.00	39.42	M	C
ATOM 6526	O	PRO	M	241	9.639	26.375	32.459	1.00	40.46	M	O
ATOM 6527	N	ASN	M	242	8.349	28.190	32.725	1.00	23.76	M	N
ATOM 6528	CA	ASN	M	242	9.064	28.944	31.721	1.00	20.53	M	C
ATOM 6529	CB	ASN	M	242	8.533	28.532	30.352	1.00	37.50	M	C
ATOM 6530	CG	ASN	M	242	9.622	28.394	29.328	1.00	37.50	M	C
ATOM 6531	OD1	ASN	M	242	9.417	27.833	28.250	1.00	37.50	M	O

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ATOM 6532	ND2	ASN	M	242	10.794	28.912	29.651	1.00	37.50	M	N
ATOM 6533	C	ASN	M	242	8.909	30.451	31.923	1.00	18.09	M	C
ATOM 6534	O	ASN	M	242	8.180	31.097	31.177	1.00	18.22	M	O
ATOM 6535	N	ASN	M	243	9.601	31.009	32.917	1.00	33.76	M	N
ATOM 6536	CA	ASN	M	243	9.524	32.446	33.203	1.00	31.07	M	C
ATOM 6537	CB	ASN	M	243	8.862	32.679	34.559	1.00	30.62	M	C
ATOM 6538	CG	ASN	M	243	7.358	32.606	34.499	1.00	30.62	M	C
ATOM 6539	OD1	ASN	M	243	6.719	32.103	35.422	1.00	30.62	M	O
ATOM 6540	ND2	ASN	M	243	6.776	33.125	33.427	1.00	30.62	M	N
ATOM 6541	C	ASN	M	243	10.872	33.164	33.219	1.00	28.20	M	C
ATOM 6542	O	ASN	M	243	11.791	32.733	33.912	1.00	28.12	M	O
ATOM 6543	N	SER	M	244	10.991	34.258	32.461	1.00	4.13	M	N
ATOM 6544	CA	SER	M	244	12.226	35.044	32.462	1.00	4.13	M	C
ATOM 6545	CB	SER	M	244	12.528	35.606	31.066	1.00	9.36	M	C
ATOM 6546	OG	SER	M	244	11.549	36.536	30.622	1.00	9.36	M	O
ATOM 6547	C	SER	M	244	11.988	36.178	33.461	1.00	7.87	M	C
ATOM 6548	O	SER	M	244	10.850	36.587	33.675	1.00	13.19	M	O
ATOM 6549	N	CYS	M	245	13.052	36.676	34.080	1.00	28.21	M	N
ATOM 6550	CA	CYS	M	245	12.916	37.749	35.065	1.00	26.46	M	C
ATOM 6551	C	CYS	M	245	13.997	38.793	34.839	1.00	27.02	M	C
ATOM 6552	O	CYS	M	245	15.173	38.458	34.785	1.00	24.98	M	O
ATOM 6553	CB	CYS	M	245	13.053	37.168	36.472	1.00	39.20	M	C
ATOM 6554	SG	CYS	M	245	12.278	38.181	37.757	1.00	39.20	M	S
ATOM 6555	N	TYR	M	246	13.611	40.054	34.713	1.00	26.42	M	N
ATOM 6556	CA	TYR	M	246	14.585	41.128	34.478	1.00	23.14	M	C
ATOM 6557	CB	TYR	M	246	14.389	41.733	33.071	1.00	25.90	M	C
ATOM 6558	CG	TYR	M	246	15.165	43.013	32.797	1.00	25.90	M	C
ATOM 6559	CD1	TYR	M	246	16.212	43.039	31.867	1.00	25.90	M	C
ATOM 6560	CE1	TYR	M	246	16.905	44.242	31.581	1.00	25.90	M	C
ATOM 6561	CD2	TYR	M	246	14.833	44.212	33.444	1.00	25.90	M	C
ATOM 6562	CE2	TYR	M	246	15.514	45.403	33.172	1.00	25.90	M	C
ATOM 6563	CZ	TYR	M	246	16.540	45.416	32.239	1.00	25.90	M	C
ATOM 6564	OH	TYR	M	246	17.153	46.613	31.926	1.00	25.90	M	O
ATOM 6565	C	TYR	M	246	14.471	42.229	35.525	1.00	21.87	M	C
ATOM 6566	O	TYR	M	246	13.377	42.614	35.925	1.00	21.05	M	O
ATOM 6567	N	SER	M	247	15.607	42.735	35.973	1.00	28.80	M	N
ATOM 6568	CA	SER	M	247	15.600	43.814	36.937	1.00	27.50	M	C
ATOM 6569	CB	SER	M	247	15.546	43.278	38.360	1.00	20.61	M	C
ATOM 6570	OG	SER	M	247	15.321	44.349	39.261	1.00	20.61	M	O
ATOM 6571	C	SER	M	247	16.855	44.636	36.734	1.00	26.72	M	C
ATOM 6572	O	SER	M	247	17.896	44.109	36.349	1.00	24.15	M	O
ATOM 6573	N	ALA	M	248	16.745	45.935	36.973	1.00	22.01	M	N
ATOM 6574	CA	ALA	M	248	17.879	46.830	36.798	1.00	22.34	M	C
ATOM 6575	CB	ALA	M	248	17.933	47.336	35.354	1.00	5.20	M	C
ATOM 6576	C	ALA	M	248	17.783	47.999	37.749	1.00	21.05	M	C
ATOM 6577	O	ALA	M	248	16.718	48.311	38.265	1.00	17.72	M	O
ATOM 6578	N	GLY	M	249	18.906	48.649	37.979	1.00	28.46	M	N
ATOM 6579	CA	GLY	M	249	18.906	49.786	38.870	1.00	20.68	M	C
ATOM 6580	C	GLY	M	249	20.209	50.544	38.752	1.00	24.91	M	C
ATOM 6581	O	GLY	M	249	21.122	50.117	38.035	1.00	22.73	M	O
ATOM 6582	N	ILE	M	250	20.301	51.676	39.438	1.00	21.86	M	N
ATOM 6583	CA	ILE	M	250	21.519	52.462	39.401	1.00	21.86	M	C
ATOM 6584	CB	ILE	M	250	21.218	53.932	39.087	1.00	17.99	M	C
ATOM 6585	CG2	ILE	M	250	22.501	54.742	39.103	1.00	17.99	M	C
ATOM 6586	CG1	ILE	M	250	20.534	54.027	37.724	1.00	17.99	M	C
ATOM 6587	CD1	ILE	M	250	20.251	55.461	37.269	1.00	17.99	M	C
ATOM 6588	C	ILE	M	250	22.161	52.356	40.764	1.00	21.86	M	C
ATOM 6589	O	ILE	M	250	21.469	52.323	41.782	1.00	21.93	M	O
ATOM 6590	N	ALA	M	251	23.484	52.291	40.786	1.00	34.77	M	N
ATOM 6591	CA	ALA	M	251	24.200	52.189	42.051	1.00	36.07	M	C
ATOM 6592	CB	ALA	M	251	24.279	50.743	42.484	1.00	30.10	M	C
ATOM 6593	C	ALA	M	251	25.592	52.763	41.915	1.00	39.28	M	C
ATOM 6594	O	ALA	M	251	26.209	52.654	40.856	1.00	38.81	M	O
ATOM 6595	N	LYS	M	252	26.082	53.388	42.981	1.00	35.71	M	N
ATOM 6596	CA	LYS	M	252	27.415	53.952	42.935	1.00	35.86	M	C
ATOM 6597	CB	LYS	M	252	27.511	55.208	43.803	1.00	59.16	M	C

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ATOM 6598	CG	LYS	M	252	28.885	55.880	43.729	1.00	59.64	M	C
ATOM 6599	CD	LYS	M	252	28.822	57.313	44.225	1.00	59.64	M	C
ATOM 6600	CE	LYS	M	252	30.188	57.967	44.230	1.00	59.64	M	C
ATOM 6601	NZ	LYS	M	252	31.089	57.309	45.201	1.00	59.64	M	N
ATOM 6602	C	LYS	M	252	28.376	52.880	43.420	1.00	36.48	M	C
ATOM 6603	O	LYS	M	252	28.238	52.376	44.523	1.00	39.36	M	O
ATOM 6604	N	LEU	M	253	29.324	52.510	42.567	1.00	33.62	M	N
ATOM 6605	CA	LEU	M	253	30.311	51.492	42.889	1.00	33.35	M	C
ATOM 6606	CB	LEU	M	253	30.354	50.437	41.785	1.00	23.20	M	C
ATOM 6607	CG	LEU	M	253	29.253	49.382	41.643	1.00	24.74	M	C
ATOM 6608	CD1	LEU	M	253	28.043	49.747	42.470	1.00	19.54	M	C
ATOM 6609	CD2	LEU	M	253	28.911	49.226	40.157	1.00	21.04	M	C
ATOM 6610	C	LEU	M	253	31.691	52.126	43.017	1.00	34.71	M	C
ATOM 6611	O	LEU	M	253	31.974	53.154	42.389	1.00	32.29	M	O
ATOM 6612	N	GLU	M	254	32.543	51.509	43.834	1.00	47.38	M	N
ATOM 6613	CA	GLU	M	254	33.904	51.989	44.042	1.00	49.05	M	C
ATOM 6614	CB	GLU	M	254	34.276	51.960	45.522	1.00	126.42	M	C
ATOM 6615	CG	GLU	M	254	33.618	53.009	46.370	1.00	95.71	M	C
ATOM 6616	CD	GLU	M	254	34.254	53.090	47.733	1.00	95.71	M	C
ATOM 6617	OE1	GLU	M	254	35.460	53.404	47.809	1.00	95.71	M	O
ATOM 6618	OE2	GLU	M	254	33.555	52.832	48.729	1.00	95.71	M	O
ATOM 6619	C	GLU	M	254	34.874	51.094	43.296	1.00	49.84	M	C
ATOM 6620	O	GLU	M	254	34.634	49.892	43.158	1.00	49.56	M	O
ATOM 6621	N	GLU	M	255	35.966	51.678	42.813	1.00	35.59	M	N
ATOM 6622	CA	GLU	M	255	36.978	50.896	42.122	1.00	34.49	M	C
ATOM 6623	CB	GLU	M	255	38.213	51.737	41.832	1.00	65.05	M	C
ATOM 6624	CG	GLU	M	255	39.368	50.906	41.317	1.00	65.05	M	C
ATOM 6625	CD	GLU	M	255	40.607	51.724	41.053	1.00	65.05	M	C
ATOM 6626	OE1	GLU	M	255	41.623	51.130	40.630	1.00	65.05	M	O
ATOM 6627	OE2	GLU	M	255	40.563	52.955	41.264	1.00	65.05	M	O
ATOM 6628	C	GLU	M	255	37.372	49.729	43.026	1.00	36.94	M	C
ATOM 6629	O	GLU	M	255	37.699	49.914	44.202	1.00	40.17	M	O
ATOM 6630	N	GLY	M	256	37.333	48.525	42.474	1.00	30.63	M	N
ATOM 6631	CA	GLY	M	256	37.677	47.363	43.258	1.00	30.63	M	C
ATOM 6632	C	GLY	M	256	36.454	46.518	43.541	1.00	30.63	M	C
ATOM 6633	O	GLY	M	256	36.572	45.324	43.805	1.00	30.63	M	O
ATOM 6634	N	ASP	M	257	35.278	47.134	43.500	1.00	29.80	M	N
ATOM 6635	CA	ASP	M	257	34.043	46.402	43.747	1.00	33.08	M	C
ATOM 6636	CB	ASP	M	257	32.845	47.350	43.813	1.00	53.30	M	C
ATOM 6637	CG	ASP	M	257	32.821	48.183	45.072	1.00	53.30	M	C
ATOM 6638	OD1	ASP	M	257	33.415	47.751	46.084	1.00	53.30	M	O
ATOM 6639	OD2	ASP	M	257	32.187	49.261	45.053	1.00	53.30	M	O
ATOM 6640	C	ASP	M	257	33.784	45.390	42.639	1.00	32.87	M	C
ATOM 6641	O	ASP	M	257	34.296	45.524	41.519	1.00	37.33	M	O
ATOM 6642	N	GLU	M	258	32.982	44.378	42.959	1.00	43.99	M	N
ATOM 6643	CA	GLU	M	258	32.620	43.346	41.996	1.00	40.65	M	C
ATOM 6644	CB	GLU	M	258	33.300	42.020	42.337	1.00	59.60	M	C
ATOM 6645	CG	GLU	M	258	34.785	41.971	42.013	1.00	59.60	M	C
ATOM 6646	CD	GLU	M	258	35.410	40.634	42.374	1.00	59.60	M	C
ATOM 6647	OE1	GLU	M	258	36.563	40.372	41.967	1.00	59.60	M	O
ATOM 6648	OE2	GLU	M	258	34.749	39.840	43.073	1.00	59.60	M	O
ATOM 6649	C	GLU	M	258	31.114	43.171	42.025	1.00	39.36	M	C
ATOM 6650	O	GLU	M	258	30.479	43.361	43.063	1.00	39.36	M	O
ATOM 6651	N	LEU	M	259	30.537	42.842	40.879	1.00	23.56	M	N
ATOM 6652	CA	LEU	M	259	29.099	42.624	40.797	1.00	20.03	M	C
ATOM 6653	CB	LEU	M	259	28.468	43.559	39.764	1.00	24.25	M	C
ATOM 6654	CG	LEU	M	259	28.539	45.073	39.968	1.00	24.25	M	C
ATOM 6655	CD1	LEU	M	259	28.065	45.758	38.692	1.00	24.25	M	C
ATOM 6656	CD2	LEU	M	259	27.685	45.493	41.153	1.00	24.25	M	C
ATOM 6657	C	LEU	M	259	28.944	41.184	40.347	1.00	17.37	M	C
ATOM 6658	O	LEU	M	259	29.677	40.733	39.466	1.00	21.45	M	O
ATOM 6659	N	GLN	M	260	28.008	40.461	40.947	1.00	28.13	M	N
ATOM 6660	CA	GLN	M	260	27.785	39.067	40.587	1.00	26.89	M	C
ATOM 6661	CB	GLN	M	260	28.467	38.150	41.607	1.00	38.69	M	C
ATOM 6662	CG	GLN	M	260	27.710	38.038	42.926	1.00	38.69	M	C
ATOM 6663	CD	GLN	M	260	28.458	37.253	43.988	1.00	38.69	M	C

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ATOM 6664	OE1	GLN	M	260	27.871	36.857	44.996	1.00	38.69	M	O
ATOM 6665	NE2	GLN	M	260	29.757	37.036	43.778	1.00	38.69	M	N
ATOM 6666	C	GLN	M	260	26.287	38.792	40.585	1.00	26.88	M	C
ATOM 6667	O	GLN	M	260	25.544	39.425	41.331	1.00	24.41	M	O
ATOM 6668	N	LEU	M	261	25.838	37.858	39.752	1.00	32.64	M	N
ATOM 6669	CA	LEU	M	261	24.424	37.515	39.705	1.00	32.95	M	C
ATOM 6670	CB	LEU	M	261	23.953	37.491	38.259	1.00	16.33	M	C
ATOM 6671	CG	LEU	M	261	22.439	37.400	38.063	1.00	16.33	M	C
ATOM 6672	CD1	LEU	M	261	22.086	37.901	36.670	1.00	16.33	M	C
ATOM 6673	CD2	LEU	M	261	21.946	35.970	38.273	1.00	16.33	M	C
ATOM 6674	C	LEU	M	261	24.258	36.144	40.363	1.00	36.62	M	C
ATOM 6675	O	LEU	M	261	24.814	35.153	39.890	1.00	37.29	M	O
ATOM 6676	N	ALA	M	262	23.493	36.084	41.452	1.00	25.24	M	N
ATOM 6677	CA	ALA	M	262	23.311	34.829	42.182	1.00	27.64	M	C
ATOM 6678	CB	ALA	M	262	23.916	34.955	43.563	1.00	6.96	M	C
ATOM 6679	C	ALA	M	262	21.885	34.351	42.324	1.00	26.94	M	C
ATOM 6680	O	ALA	M	262	21.000	35.133	42.628	1.00	26.97	M	O
ATOM 6681	N	ILE	M	263	21.676	33.054	42.128	1.00	20.81	M	N
ATOM 6682	CA	ILE	M	263	20.360	32.435	42.265	1.00	19.85	M	C
ATOM 6683	CB	ILE	M	263	20.097	31.488	41.111	1.00	22.15	M	C
ATOM 6684	CG2	ILE	M	263	18.759	30.796	41.308	1.00	22.15	M	C
ATOM 6685	CG1	ILE	M	263	20.125	32.271	39.801	1.00	22.15	M	C
ATOM 6686	CD1	ILE	M	263	20.063	31.402	38.551	1.00	22.15	M	C
ATOM 6687	C	ILE	M	263	20.326	31.653	43.582	1.00	18.17	M	C
ATOM 6688	O	ILE	M	263	21.035	30.668	43.738	1.00	17.92	M	O
ATOM 6689	N	PRO	M	264	19.500	32.088	44.545	1.00	34.72	M	N
ATOM 6690	CD	PRO	M	264	18.648	33.277	44.434	1.00	12.04	M	C
ATOM 6691	CA	PRO	M	264	19.346	31.475	45.873	1.00	34.72	M	C
ATOM 6692	CB	PRO	M	264	18.534	32.508	46.646	1.00	12.04	M	C
ATOM 6693	CG	PRO	M	264	18.682	33.773	45.840	1.00	12.04	M	C
ATOM 6694	C	PRO	M	264	18.642	30.138	45.850	1.00	34.72	M	C
ATOM 6695	O	PRO	M	264	17.607	29.967	46.487	1.00	34.72	M	O
ATOM 6696	N	ARG	M	265	19.219	29.184	45.138	1.00	44.06	M	N
ATOM 6697	CA	ARG	M	265	18.629	27.866	45.020	1.00	44.06	M	C
ATOM 6698	CB	ARG	M	265	17.550	27.927	43.947	1.00	72.36	M	C
ATOM 6699	CG	ARG	M	265	16.907	26.612	43.616	1.00	72.36	M	C
ATOM 6700	CD	ARG	M	265	15.867	26.236	44.634	1.00	72.36	M	C
ATOM 6701	NE	ARG	M	265	15.289	24.938	44.312	1.00	72.36	M	N
ATOM 6702	CZ	ARG	M	265	14.335	24.355	45.024	1.00	72.36	M	C
ATOM 6703	NH1	ARG	M	265	13.850	24.962	46.099	1.00	72.36	M	N
ATOM 6704	NH2	ARG	M	265	13.872	23.167	44.664	1.00	72.36	M	N
ATOM 6705	C	ARG	M	265	19.713	26.855	44.635	1.00	44.06	M	C
ATOM 6706	O	ARG	M	265	20.598	27.166	43.833	1.00	44.06	M	O
ATOM 6707	N	GLU	M	266	19.668	25.655	45.210	1.00	47.02	M	N
ATOM 6708	CA	GLU	M	266	20.660	24.643	44.856	1.00	47.02	M	C
ATOM 6709	CB	GLU	M	266	20.748	23.565	45.938	1.00	110.72	M	C
ATOM 6710	CG	GLU	M	266	21.518	24.021	47.169	1.00	110.72	M	C
ATOM 6711	CD	GLU	M	266	21.675	22.928	48.204	1.00	110.72	M	C
ATOM 6712	OE1	GLU	M	266	22.134	21.823	47.842	1.00	110.72	M	O
ATOM 6713	OE2	GLU	M	266	21.345	23.176	49.383	1.00	110.72	M	O
ATOM 6714	C	GLU	M	266	20.246	24.045	43.522	1.00	47.02	M	C
ATOM 6715	O	GLU	M	266	19.122	23.574	43.373	1.00	47.02	M	O
ATOM 6716	N	ASN	M	267	21.151	24.084	42.549	1.00	70.52	M	N
ATOM 6717	CA	ASN	M	267	20.857	23.571	41.215	1.00	70.52	M	C
ATOM 6718	CB	ASN	M	267	20.681	22.054	41.251	1.00	72.76	M	C
ATOM 6719	CG	ASN	M	267	21.931	21.351	41.727	1.00	72.76	M	C
ATOM 6720	OD1	ASN	M	267	22.224	21.319	42.925	1.00	72.76	M	O
ATOM 6721	ND2	ASN	M	267	22.696	20.807	40.786	1.00	72.76	M	N
ATOM 6722	C	ASN	M	267	19.602	24.256	40.707	1.00	70.52	M	C
ATOM 6723	O	ASN	M	267	18.562	23.633	40.523	1.00	70.52	M	O
ATOM 6724	N	ALA	M	268	19.737	25.560	40.491	1.00	63.93	M	N
ATOM 6725	CA	ALA	M	268	18.661	26.418	40.031	1.00	63.93	M	C
ATOM 6726	CB	ALA	M	268	19.238	27.697	39.460	1.00	62.56	M	C
ATOM 6727	C	ALA	M	268	17.692	25.820	39.030	1.00	63.93	M	C
ATOM 6728	O	ALA	M	268	16.506	25.687	39.325	1.00	63.93	M	O
ATOM 6729	N	GLN	M	269	18.193	25.471	37.850	1.00	34.44	M	N

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Figure 8-103

ATOM 6730	CA	GLN	M	269	17.347	24.937	36.774	1.00	32.37	M	C
ATOM 6731	CB	GLN	M	269	16.090	24.264	37.334	1.00	50.58	M	C
ATOM 6732	CG	GLN	M	269	15.589	23.111	36.517	1.00	43.23	M	C
ATOM 6733	CD	GLN	M	269	16.658	22.050	36.318	1.00	43.23	M	C
ATOM 6734	OE1	GLN	M	269	17.442	21.758	37.229	1.00	43.23	M	O
ATOM 6735	NE2	GLN	M	269	16.690	21.457	35.123	1.00	43.23	M	N
ATOM 6736	C	GLN	M	269	16.946	26.160	35.941	1.00	33.06	M	C
ATOM 6737	O	GLN	M	269	15.786	26.572	35.932	1.00	31.65	M	O
ATOM 6738	N	ILE	M	270	17.928	26.737	35.255	1.00	31.58	M	N
ATOM 6739	CA	ILE	M	270	17.717	27.930	34.458	1.00	29.79	M	C
ATOM 6740	CB	ILE	M	270	18.688	29.019	34.914	1.00	18.12	M	C
ATOM 6741	CG2	ILE	M	270	18.451	29.328	36.383	1.00	21.68	M	C
ATOM 6742	CG1	ILE	M	270	20.129	28.544	34.733	1.00	21.68	M	C
ATOM 6743	CD1	ILE	M	270	21.165	29.618	35.018	1.00	18.12	M	C
ATOM 6744	C	ILE	M	270	17.863	27.675	32.960	1.00	29.43	M	C
ATOM 6745	O	ILE	M	270	17.809	26.537	32.533	1.00	27.41	M	O
ATOM 6746	N	SER	M	271	18.064	28.714	32.155	1.00	39.24	M	N
ATOM 6747	CA	SER	M	271	18.151	28.494	30.718	1.00	39.90	M	C
ATOM 6748	CB	SER	M	271	17.252	29.471	29.979	1.00	45.27	M	C
ATOM 6749	OG	SER	M	271	17.140	29.085	28.618	1.00	40.03	M	O
ATOM 6750	C	SER	M	271	19.503	28.480	30.023	1.00	37.21	M	C
ATOM 6751	O	SER	M	271	19.684	27.747	29.056	1.00	38.57	M	O
ATOM 6752	N	LEU	M	272	20.454	29.279	30.470	1.00	18.38	M	N
ATOM 6753	CA	LEU	M	272	21.767	29.275	29.816	1.00	16.88	M	C
ATOM 6754	CB	LEU	M	272	22.430	27.894	29.922	1.00	22.78	M	C
ATOM 6755	CG	LEU	M	272	23.075	27.501	31.253	1.00	31.93	M	C
ATOM 6756	CD1	LEU	M	272	24.230	28.417	31.546	1.00	31.93	M	C
ATOM 6757	CD2	LEU	M	272	22.071	27.582	32.361	1.00	31.93	M	C
ATOM 6758	C	LEU	M	272	21.722	29.686	28.344	1.00	23.24	M	C
ATOM 6759	O	LEU	M	272	22.714	29.577	27.636	1.00	21.64	M	O
ATOM 6760	N	ASP	M	273	20.568	30.151	27.885	1.00	32.47	M	N
ATOM 6761	CA	ASP	M	273	20.416	30.608	26.505	1.00	27.64	M	C
ATOM 6762	CB	ASP	M	273	18.947	30.542	26.120	1.00	65.62	M	C
ATOM 6763	CG	ASP	M	273	18.738	29.952	24.759	1.00	65.62	M	C
ATOM 6764	OD1	ASP	M	273	19.268	28.845	24.515	1.00	65.62	M	O
ATOM 6765	OD2	ASP	M	273	18.043	30.593	23.938	1.00	65.62	M	O
ATOM 6766	C	ASP	M	273	20.924	32.064	26.486	1.00	29.30	M	C
ATOM 6767	O	ASP	M	273	20.334	32.949	27.093	1.00	32.63	M	O
ATOM 6768	N	GLY	M	274	22.027	32.301	25.790	1.00	42.34	M	N
ATOM 6769	CA	GLY	M	274	22.646	33.622	25.740	1.00	42.34	M	C
ATOM 6770	C	GLY	M	274	21.790	34.855	25.522	1.00	42.34	M	C
ATOM 6771	O	GLY	M	274	22.171	35.971	25.900	1.00	42.34	M	O
ATOM 6772	N	ASP	M	275	20.621	34.659	24.931	1.00	23.13	M	N
ATOM 6773	CA	ASP	M	275	19.700	35.767	24.642	1.00	23.13	M	C
ATOM 6774	CB	ASP	M	275	19.098	35.579	23.248	1.00	37.12	M	C
ATOM 6775	CG	ASP	M	275	18.189	34.350	23.172	1.00	37.12	M	C
ATOM 6776	OD1	ASP	M	275	18.099	33.598	24.180	1.00	37.12	M	O
ATOM 6777	OD2	ASP	M	275	17.576	34.124	22.110	1.00	37.12	M	O
ATOM 6778	C	ASP	M	275	18.546	35.892	25.636	1.00	23.13	M	C
ATOM 6779	O	ASP	M	275	17.604	36.645	25.396	1.00	23.13	M	O
ATOM 6780	N	VAL	M	276	18.590	35.140	26.726	1.00	25.08	M	N
ATOM 6781	CA	VAL	M	276	17.514	35.229	27.688	1.00	24.19	M	C
ATOM 6782	CB	VAL	M	276	16.532	34.022	27.537	1.00	24.28	M	C
ATOM 6783	CG1	VAL	M	276	17.147	32.754	28.087	1.00	24.28	M	C
ATOM 6784	CG2	VAL	M	276	15.229	34.330	28.248	1.00	24.28	M	C
ATOM 6785	C	VAL	M	276	18.088	35.322	29.109	1.00	22.30	M	C
ATOM 6786	O	VAL	M	276	17.417	35.766	30.043	1.00	22.69	M	O
ATOM 6787	N	THR	M	277	19.342	34.912	29.258	1.00	25.73	M	N
ATOM 6788	CA	THR	M	277	20.026	34.978	30.545	1.00	25.82	M	C
ATOM 6789	CB	THR	M	277	20.352	33.576	31.080	1.00	21.65	M	C
ATOM 6790	OG1	THR	M	277	19.120	32.900	31.362	1.00	22.38	M	O
ATOM 6791	CG2	THR	M	277	21.193	33.655	32.345	1.00	23.08	M	C
ATOM 6792	C	THR	M	277	21.313	35.769	30.350	1.00	24.09	M	C
ATOM 6793	O	THR	M	277	22.301	35.241	29.856	1.00	26.27	M	O
ATOM 6794	N	PHE	M	278	21.280	37.044	30.726	1.00	21.48	M	N
ATOM 6795	CA	PHE	M	278	22.430	37.928	30.579	1.00	15.65	M	C

Figure 8-104

ATOM	6796	CB	PHE	M	278	22.301	38.749	29.299	1.00	21.78	M	C
ATOM	6797	CG	PHE	M	278	20.945	39.339	29.106	1.00	21.78	M	C
ATOM	6798	CD1	PHE	M	278	20.655	40.619	29.562	1.00	21.78	M	C
ATOM	6799	CD2	PHE	M	278	19.942	38.607	28.480	1.00	21.78	M	C
ATOM	6800	CE1	PHE	M	278	19.379	41.163	29.392	1.00	21.78	M	C
ATOM	6801	CE2	PHE	M	278	18.667	39.140	28.307	1.00	21.78	M	C
ATOM	6802	CZ	PHE	M	278	18.384	40.417	28.762	1.00	21.78	M	C
ATOM	6803	C	PHE	M	278	22.585	38.847	31.783	1.00	18.11	M	C
ATOM	6804	O	PHE	M	278	21.664	39.024	32.572	1.00	23.27	M	O
ATOM	6805	N	PHE	M	279	23.764	39.440	31.895	1.00	27.58	M	N
ATOM	6806	CA	PHE	M	279	24.110	40.295	33.013	1.00	26.98	M	C
ATOM	6807	CB	PHE	M	279	24.883	39.427	34.005	1.00	25.11	M	C
ATOM	6808	CG	PHE	M	279	25.275	40.119	35.267	1.00	22.18	M	C
ATOM	6809	CD1	PHE	M	279	24.449	41.059	35.851	1.00	24.66	M	C
ATOM	6810	CD2	PHE	M	279	26.467	39.782	35.904	1.00	19.58	M	C
ATOM	6811	CE1	PHE	M	279	24.806	41.650	37.051	1.00	24.95	M	C
ATOM	6812	CE2	PHE	M	279	26.831	40.368	37.106	1.00	20.32	M	C
ATOM	6813	CZ	PHE	M	279	26.007	41.299	37.680	1.00	22.73	M	C
ATOM	6814	C	PHE	M	279	24.965	41.429	32.452	1.00	30.96	M	C
ATOM	6815	O	PHE	M	279	25.842	41.188	31.622	1.00	28.47	M	O
ATOM	6816	N	GLY	M	280	24.709	42.666	32.878	1.00	17.96	M	N
ATOM	6817	CA	GLY	M	280	25.484	43.770	32.341	1.00	18.65	M	C
ATOM	6818	C	GLY	M	280	25.511	45.040	33.160	1.00	18.53	M	C
ATOM	6819	O	GLY	M	280	24.675	45.243	34.044	1.00	18.20	M	O
ATOM	6820	N	ALA	M	281	26.483	45.897	32.854	1.00	27.03	M	N
ATOM	6821	CA	ALA	M	281	26.652	47.163	33.554	1.00	27.03	M	C
ATOM	6822	CB	ALA	M	281	27.703	47.027	34.646	1.00	15.27	M	C
ATOM	6823	C	ALA	M	281	27.055	48.257	32.588	1.00	27.03	M	C
ATOM	6824	O	ALA	M	281	27.907	48.061	31.720	1.00	27.03	M	O
ATOM	6825	N	LEU	M	282	26.432	49.415	32.751	1.00	27.34	M	N
ATOM	6826	CA	LEU	M	282	26.709	50.562	31.904	1.00	25.23	M	C
ATOM	6827	CB	LEU	M	282	25.452	50.927	31.117	1.00	35.61	M	C
ATOM	6828	CG	LEU	M	282	25.532	51.933	29.970	1.00	39.61	M	C
ATOM	6829	CD1	LEU	M	282	24.132	52.170	29.453	1.00	36.04	M	C
ATOM	6830	CD2	LEU	M	282	26.125	53.235	30.425	1.00	41.51	M	C
ATOM	6831	C	LEU	M	282	27.102	51.720	32.822	1.00	26.10	M	C
ATOM	6832	O	LEU	M	282	26.392	52.020	33.783	1.00	25.43	M	O
ATOM	6833	N	LYS	M	283	28.230	52.364	32.534	1.00	26.78	M	N
ATOM	683											

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Figure 9a

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1   MDDSTEREQS RLTSCCLKRE EMKLKECVSI LPRKESPSVR SSKDGKLLAA
51  TLLLALLSCC LTVVSFYQVA ALQGDLASLR AELQGHHA EK LPAGAGAPKA
101 GLEEAPAVTA GLKIFEPPAP GEGNSSQNSR NKRAVQGPEE TVTQDCLQLI
151 ADSETPTIQK GSYTFVPWLL SFKRGSAL EE KENKILVKET GYFFIYGQVL
201 YTDKTYAMGH LIQRKKVHVF GDELSLVTLF RCIQNMPETL PNNSCYSAGI
251 AKLEEGDELQ LAIPRENAQI SLDGDTVFFG ALKLL
```

Figure 9b

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1   EQKLISEEDL NKELQGPEET VTQDCLQLIA DSETPTIQKG SYTFVPWLLS
51  FKRGSAL E EK ENKILVKETG YFFIYGQVLY TDKTYAMGHL IQRKKVHVF
101 DELSLVTLFR CIQNMPETLP NNSCYSAGIA KLEEGDELQL AIPRENAQIS
151 LDGDTVFFGA LKLL
```

Figure 9c

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1   MPASSPFLLA PKGPPGNMGG PVREPAL SVA LWLSWGAALG AVACAMALLT
51  QQTELQSLRR EVSRLQGTGG PSQNGEGYPW QSLPEQSSDA LEAWENGERS
101 RKRRAVLTQK QKK[QHSVLHL VPINATSKDD SDVTEVMWQP ALRRGRGLQA
151 QGYGVRIQDA GYLLYSQVL FQDVTFTMGQ VVSREGQGRQ ETLFR CIRSM
201 PSHPDRA YNS CYSAGVFHLH QGDILSVIIP RARAKLNLSP HGTF LGFVKL]
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Figure 10-1

FIGURE 10

	Atom	Type	Resid	#	X	Y	Z	Occ	B	Mol	
	ATOM	1	N	GLN A 114	-41.355	36.701	55.527	1.00	54.74	A	N
	ATOM	2	CA	GLN A 114	-42.766	36.889	55.483	1.00	54.74	A	C
	ATOM	3	C	GLN A 114	-42.998	38.183	56.169	1.00	54.74	A	C
	ATOM	4	O	GLN A 114	-42.790	38.298	57.374	1.00	54.74	A	O
	ATOM	5	CB	GLN A 114	-43.564	35.814	56.242	1.00	54.74	A	C
	ATOM	6	CG	GLN A 114	-43.433	34.410	55.646	1.00	54.74	A	C
	ATOM	7	CD	GLN A 114	-44.265	33.465	56.502	1.00	54.74	A	C
	ATOM	8	OE1	GLN A 114	-44.890	33.881	57.476	1.00	54.74	A	O
	ATOM	9	NE2	GLN A 114	-44.275	32.157	56.130	1.00	54.74	A	N
	ATOM	10	N	HIS A 115	-43.406	39.212	55.409	1.00	53.85	A	N
	ATOM	11	CA	HIS A 115	-43.630	40.477	56.031	1.00	53.85	A	C
	ATOM	12	C	HIS A 115	-44.879	40.345	56.834	1.00	53.85	A	C
	ATOM	13	O	HIS A 115	-45.881	39.824	56.351	1.00	53.85	A	O
	ATOM	14	CB	HIS A 115	-43.832	41.625	55.028	1.00	53.85	A	C
	ATOM	15	CG	HIS A 115	-44.970	41.374	54.084	1.00	53.85	A	C
	ATOM	16	ND1	HIS A 115	-46.295	41.586	54.395	1.00	53.85	A	N
	ATOM	17	CD2	HIS A 115	-44.959	40.908	52.805	1.00	53.85	A	C
	ATOM	18	CE1	HIS A 115	-47.014	41.240	53.297	1.00	53.85	A	C
	ATOM	19	NE2	HIS A 115	-46.246	40.823	52.308	1.00	53.85	A	N
	ATOM	20	N	SER A 116	-44.846	40.818	58.094	1.00	49.07	A	N
	ATOM	21	CA	SER A 116	-46.009	40.711	58.924	1.00	49.07	A	C
	ATOM	22	C	SER A 116	-46.967	41.767	58.483	1.00	49.07	A	C
	ATOM	23	O	SER A 116	-46.563	42.787	57.926	1.00	49.07	A	O
	ATOM	24	CB	SER A 116	-45.729	40.953	60.417	1.00	49.07	A	C
	ATOM	25	OG	SER A 116	-44.862	39.950	60.923	1.00	49.07	A	O
	ATOM	26	N	VAL A 117	-48.275	41.527	58.698	1.00	46.78	A	N
	ATOM	27	CA	VAL A 117	-49.263	42.500	58.331	1.00	46.78	A	C
	ATOM	28	C	VAL A 117	-50.485	42.230	59.154	1.00	46.78	A	C
	ATOM	29	O	VAL A 117	-50.732	41.098	59.567	1.00	46.78	A	O
	ATOM	30	CB	VAL A 117	-49.704	42.395	56.897	1.00	46.78	A	C
	ATOM	31	CG1	VAL A 117	-48.496	42.631	55.979	1.00	46.78	A	C
	ATOM	32	CG2	VAL A 117	-50.385	41.030	56.699	1.00	46.78	A	C
	ATOM	33	N	LEU A 118	-51.283	43.282	59.422	1.00	46.47	A	N
	ATOM	34	CA	LEU A 118	-52.496	43.119	60.173	1.00	46.47	A	C
	ATOM	35	C	LEU A 118	-53.497	44.039	59.545	1.00	46.47	A	C
	ATOM	36	O	LEU A 118	-53.161	45.161	59.165	1.00	46.47	A	O
	ATOM	37	CB	LEU A 118	-52.313	43.493	61.662	1.00	46.47	A	C
	ATOM	38	CG	LEU A 118	-53.523	43.268	62.600	1.00	46.47	A	C
	ATOM	39	CD1	LEU A 118	-53.127	43.551	64.059	1.00	46.47	A	C
	ATOM	40	CD2	LEU A 118	-54.757	44.091	62.199	1.00	46.47	A	C
	ATOM	41	N	HIS A 119	-54.760	43.588	59.393	1.00	47.74	A	N
	ATOM	42	CA	HIS A 119	-55.721	44.472	58.802	1.00	47.74	A	C
	ATOM	43	C	HIS A 119	-57.013	44.419	59.558	1.00	47.74	A	C
	ATOM	44	O	HIS A 119	-57.412	43.377	60.077	1.00	47.74	A	O
	ATOM	45	CB	HIS A 119	-55.966	44.212	57.304	1.00	47.74	A	C
	ATOM	46	CG	HIS A 119	-55.878	42.766	56.921	1.00	47.74	A	C
	ATOM	47	ND1	HIS A 119	-54.691	42.095	56.724	1.00	47.74	A	N
	ATOM	48	CD2	HIS A 119	-56.858	41.853	56.694	1.00	47.74	A	C
	ATOM	49	CE1	HIS A 119	-55.014	40.819	56.391	1.00	47.74	A	C
	ATOM	50	NE2	HIS A 119	-56.319	40.625	56.359	1.00	47.74	A	N
	ATOM	51	N	LEU A 120	-57.684	45.588	59.650	1.00	49.98	A	N
	ATOM	52	CA	LEU A 120	-58.932	45.732	60.349	1.00	49.98	A	C
	ATOM	53	C	LEU A 120	-59.995	46.082	59.353	1.00	49.98	A	C
	ATOM	54	O	LEU A 120	-59.729	46.734	58.343	1.00	49.98	A	O
	ATOM	55	CB	LEU A 120	-58.936	46.849	61.409	1.00	49.98	A	C
	ATOM	56	CG	LEU A 120	-58.042	46.553	62.629	1.00	49.98	A	C
	ATOM	57	CD1	LEU A 120	-56.571	46.420	62.219	1.00	49.98	A	C
	ATOM	58	CD2	LEU A 120	-58.240	47.587	63.747	1.00	49.98	A	C
	ATOM	59	N	VAL A 121	-61.240	45.644	59.638	1.00	49.34	A	N
	ATOM	60	CA	VAL A 121	-62.390	45.798	58.786	1.00	49.34	A	C
	ATOM	61	C	VAL A 121	-63.485	46.361	59.667	1.00	49.34	A	C
	ATOM	62	O	VAL A 121	-63.621	45.940	60.812	1.00	49.34	A	O
	ATOM	63	CB	VAL A 121	-62.755	44.414	58.281	1.00	49.34	A	C

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Figure 10-2

ATOM	64	CG1	VAL	A	121	-63.973	44.391	57.348	1.00	49.34	A	C
ATOM	65	CG2	VAL	A	121	-61.484	43.840	57.633	1.00	49.34	A	C
ATOM	66	N	PRO	A	122	-64.270	47.301	59.197	1.00	47.62	A	N
ATOM	67	CA	FRO	A	122	-65.267	47.917	60.027	1.00	47.62	A	C
ATOM	68	C	PRO	A	122	-66.238	46.887	60.492	1.00	47.62	A	C
ATOM	69	O	PRO	A	122	-66.488	45.928	59.761	1.00	47.62	A	O
ATOM	70	CB	PRO	A	122	-65.998	48.885	59.137	1.00	47.62	A	C
ATOM	71	CG	PRO	A	122	-66.019	48.115	57.811	1.00	47.62	A	C
ATOM	72	CD	PRO	A	122	-64.756	47.235	57.848	1.00	47.62	A	C
ATOM	73	N	ILE	A	123	-66.812	47.086	61.694	1.00	42.63	A	N
ATOM	74	CA	ILE	A	123	-67.770	46.154	62.199	1.00	42.63	A	C
ATOM	75	C	ILE	A	123	-69.136	46.756	62.041	1.00	42.63	A	C
ATOM	76	O	ILE	A	123	-69.517	47.710	62.717	1.00	42.63	A	O
ATOM	77	CB	ILE	A	123	-67.542	45.777	63.641	1.00	42.63	A	C
ATOM	78	CG1	ILE	A	123	-68.539	44.688	64.066	1.00	42.63	A	C
ATOM	79	CG2	ILE	A	123	-67.563	47.044	64.513	1.00	42.63	A	C
ATOM	80	CD1	ILE	A	123	-68.318	43.355	63.352	1.00	42.63	A	C
ATOM	81	N	ASN	A	124	-69.919	46.174	61.119	1.00	35.86	A	N
ATOM	82	CA	ASN	A	124	-71.244	46.626	60.809	1.00	35.86	A	C
ATOM	83	C	ASN	A	124	-72.102	46.410	62.016	1.00	35.86	A	C
ATOM	84	O	ASN	A	124	-73.088	47.112	62.233	1.00	35.86	A	O
ATOM	85	CB	ASN	A	124	-71.859	45.850	59.630	1.00	35.86	A	C
ATOM	86	CG	ASN	A	124	-73.175	46.506	59.226	1.00	35.86	A	C
ATOM	87	OD1	ASN	A	124	-74.135	46.543	59.994	1.00	35.86	A	O
ATOM	88	ND2	ASN	A	124	-73.227	47.032	57.972	1.00	35.86	A	N
ATOM	89	N	ALA	A	125	-71.741	45.399	62.822	1.00	31.82	A	N
ATOM	90	CA	ALA	A	125	-72.499	45.004	63.972	1.00	31.82	A	C
ATOM	91	C	ALA	A	125	-72.579	46.099	64.997	1.00	31.82	A	C
ATOM	92	O	ALA	A	125	-73.640	46.303	65.584	1.00	31.82	A	O
ATOM	93	CB	ALA	A	125	-71.904	43.770	64.671	1.00	31.82	A	C
ATOM	94	N	THR	A	126	-71.487	46.853	65.242	1.00	29.76	A	N
ATOM	95	CA	THR	A	126	-71.563	47.769	66.348	1.00	29.76	A	C
ATOM	96	C	THR	A	126	-71.616	49.187	65.866	1.00	29.76	A	C
ATOM	97	O	THR	A	126	-71.193	49.507	64.756	1.00	29.76	A	O
ATOM	98	CB	THR	A	126	-70.404	47.643	67.295	1.00	29.76	A	C
ATOM	99	OG1	THR	A	126	-70.272	46.293	67.716	1.00	29.76	A	O
ATOM	100	CG2	THR	A	126	-70.687	48.519	68.527	1.00	29.76	A	C
ATOM	101	N	SER	A	127	-72.173	50.079	66.715	1.00	31.01	A	N
ATOM	102	CA	SER	A	127	-72.316	51.470	66.400	1.00	31.01	A	C
ATOM	103	C	SER	A	127	-70.973	52.120	66.480	1.00	31.01	A	C
ATOM	104	O	SER	A	127	-70.036	51.585	67.070	1.00	31.01	A	O
ATOM	105	CB	SER	A	127	-73.254	52.223	67.357	1.00	31.01	A	C
ATOM	106	OG	SER	A	127	-72.710	52.226	68.668	1.00	31.01	A	O
ATOM	107	N	LYS	A	128	-70.864	53.316	65.870	1.00	36.69	A	N
ATOM	108	CA	LYS	A	128	-69.634	54.047	65.795	1.00	36.69	A	C
ATOM	109	C	LYS	A	128	-69.293	54.547	67.161	1.00	36.69	A	C
ATOM	110	O	LYS	A	128	-70.177	54.885	67.948	1.00	36.69	A	O
ATOM	111	CB	LYS	A	128	-69.732	55.263	64.863	1.00	36.69	A	C
ATOM	112	CG	LYS	A	128	-68.379	55.832	64.453	1.00	36.69	A	C
ATOM	113	CD	LYS	A	128	-67.603	54.895	63.535	1.00	36.69	A	C
ATOM	114	CE	LYS	A	128	-68.509	53.983	62.709	1.00	36.69	A	C
ATOM	115	NZ	LYS	A	128	-69.340	54.792	61.791	1.00	36.69	A	N
ATOM	116	N	ASP	A	129	-67.983	54.591	67.480	1.00	40.37	A	N
ATOM	117	CA	ASP	A	129	-67.551	55.038	68.772	1.00	40.37	A	C
ATOM	118	C	ASP	A	129	-67.610	56.527	68.787	1.00	40.37	A	C
ATOM	119	O	ASP	A	129	-67.138	57.192	67.864	1.00	40.37	A	O
ATOM	120	CB	ASP	A	129	-66.114	54.614	69.119	1.00	40.37	A	C
ATOM	121	CG	ASP	A	129	-65.880	54.856	70.605	1.00	40.37	A	C
ATOM	122	OD1	ASP	A	129	-66.812	55.368	71.279	1.00	40.37	A	O
ATOM	123	OD2	ASP	A	129	-64.763	54.527	71.086	1.00	40.37	A	O
ATOM	124	N	ASP	A	130	-68.199	57.082	69.860	1.00	44.03	A	N
ATOM	125	CA	ASP	A	130	-68.369	58.495	69.961	1.00	44.03	A	C
ATOM	126	C	ASP	A	130	-67.439	59.032	71.002	1.00	44.03	A	C
ATOM	127	O	ASP	A	130	-67.393	58.575	72.142	1.00	44.03	A	O
ATOM	128	CB	ASP	A	130	-69.807	58.889	70.356	1.00	44.03	A	C
ATOM	129	CG	ASP	A	130	-69.991	60.395	70.211	1.00	44.03	A	C

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Figure 10-3

ATOM	130	OD1	ASP	A	130	-69.152	61.160	70.755	1.00	44.03	A	O
ATOM	131	OD2	ASP	A	130	-70.981	60.799	69.544	1.00	44.03	A	O
ATOM	132	N	SER	A	131	-66.654	60.030	70.568	1.00	47.28	A	N
ATOM	133	CA	SER	A	131	-65.746	60.844	71.316	1.00	47.28	A	C
ATOM	134	C	SER	A	131	-66.020	62.151	70.650	1.00	47.28	A	C
ATOM	135	O	SER	A	131	-67.007	62.234	69.928	1.00	47.28	A	O
ATOM	136	CB	SER	A	131	-64.264	60.514	71.077	1.00	47.28	A	C
ATOM	137	OG	SER	A	131	-63.442	61.369	71.858	1.00	47.28	A	O
ATOM	138	N	ASP	A	132	-65.217	63.208	70.854	1.00	45.71	A	N
ATOM	139	CA	ASP	A	132	-65.513	64.406	70.117	1.00	45.71	A	C
ATOM	140	C	ASP	A	132	-65.344	64.020	68.690	1.00	45.71	A	C
ATOM	141	O	ASP	A	132	-66.030	64.497	67.785	1.00	45.71	A	O
ATOM	142	CB	ASP	A	132	-64.533	65.555	70.411	1.00	45.71	A	C
ATOM	143	CG	ASP	A	132	-65.035	66.801	69.693	1.00	45.71	A	C
ATOM	144	OD1	ASP	A	132	-66.098	66.714	69.022	1.00	45.71	A	O
ATOM	145	OD2	ASP	A	132	-64.363	67.860	69.810	1.00	45.71	A	O
ATOM	146	N	VAL	A	133	-64.401	63.097	68.476	1.00	46.63	A	N
ATOM	147	CA	VAL	A	133	-64.126	62.611	67.173	1.00	46.63	A	C
ATOM	148	C	VAL	A	133	-64.896	61.330	67.071	1.00	46.63	A	C
ATOM	149	O	VAL	A	133	-65.512	60.896	68.043	1.00	46.63	A	O
ATOM	150	CB	VAL	A	133	-62.668	62.346	66.983	1.00	46.63	A	C
ATOM	151	CG1	VAL	A	133	-62.356	60.885	67.353	1.00	46.63	A	C
ATOM	152	CG2	VAL	A	133	-62.270	62.836	65.589	1.00	46.63	A	C
ATOM	153	N	THR	A	134	-64.950	60.726	65.872	1.00	47.14	A	N
ATOM	154	CA	THR	A	134	-65.708	59.519	65.729	1.00	47.14	A	C
ATOM	155	C	THR	A	134	-64.783	58.439	65.258	1.00	47.14	A	C
ATOM	156	O	THR	A	134	-64.023	58.630	64.310	1.00	47.14	A	O
ATOM	157	CB	THR	A	134	-66.810	59.672	64.723	1.00	47.14	A	C
ATOM	158	OG1	THR	A	134	-67.575	58.482	64.643	1.00	47.14	A	O
ATOM	159	CG2	THR	A	134	-66.195	60.013	63.358	1.00	47.14	A	C
ATOM	160	N	GLU	A	135	-64.838	57.261	65.914	1.00	48.66	A	N
ATOM	161	CA	GLU	A	135	-63.955	56.172	65.605	1.00	48.66	A	C
ATOM	162	C	GLU	A	135	-64.796	55.022	65.149	1.00	48.66	A	C
ATOM	163	O	GLU	A	135	-65.884	54.800	65.678	1.00	48.66	A	O
ATOM	164	CB	GLU	A	135	-63.190	55.716	66.857	1.00	48.66	A	C
ATOM	165	CG	GLU	A	135	-62.253	56.795	67.408	1.00	48.66	A	C
ATOM	166	CD	GLU	A	135	-61.701	56.321	68.746	1.00	48.66	A	C
ATOM	167	OE1	GLU	A	135	-62.047	55.181	69.160	1.00	48.66	A	O
ATOM	168	OE2	GLU	A	135	-60.931	57.095	69.374	1.00	48.66	A	O
ATOM	169	N	VAL	A	136	-64.334	54.240	64.149	1.00	53.13	A	N
ATOM	170	CA	VAL	A	136	-65.221	53.181	63.749	1.00	53.13	A	C
ATOM	171	C	VAL	A	136	-64.807	51.949	64.480	1.00	53.13	A	C
ATOM	172	O	VAL	A	136	-63.633	51.773	64.799	1.00	53.13	A	O
ATOM	173	CB	VAL	A	136	-65.246	52.817	62.298	1.00	53.13	A	C
ATOM	174	CG1	VAL	A	136	-65.281	54.090	61.437	1.00	53.13	A	C
ATOM	175	CG2	VAL	A	136	-64.144	51.802	62.041	1.00	53.13	A	C
ATOM	176	N	MET	A	137	-65.769	51.052	64.774	1.00	54.30	A	N
ATOM	177	CA	MET	A	137	-65.393	49.865	65.476	1.00	54.30	A	C
ATOM	178	C	MET	A	137	-64.767	48.916	64.521	1.00	54.30	A	C
ATOM	179	O	MET	A	137	-65.261	48.684	63.416	1.00	54.30	A	O
ATOM	180	CB	MET	A	137	-66.518	49.175	66.262	1.00	54.30	A	C
ATOM	181	CG	MET	A	137	-66.880	49.980	67.508	1.00	54.30	A	C
ATOM	182	SD	MET	A	137	-67.682	49.026	68.826	1.00	54.30	A	S
ATOM	183	CE	MET	A	137	-66.192	48.081	69.258	1.00	54.30	A	C
ATOM	184	N	TRP	A	138	-63.632	48.334	64.952	1.00	53.49	A	N
ATOM	185	CA	TRP	A	138	-62.884	47.521	64.050	1.00	53.49	A	C
ATOM	186	C	TRP	A	138	-62.997	46.088	64.446	1.00	53.49	A	C
ATOM	187	O	TRP	A	138	-63.148	45.758	65.622	1.00	53.49	A	O
ATOM	188	CB	TRP	A	138	-61.400	47.897	64.033	1.00	53.49	A	C
ATOM	189	CG	TRP	A	138	-61.173	49.329	63.615	1.00	53.49	A	C
ATOM	190	CD1	TRP	A	138	-60.591	50.354	64.301	1.00	53.49	A	C
ATOM	191	CD2	TRP	A	138	-61.558	49.863	62.340	1.00	53.49	A	C
ATOM	192	NE1	TRP	A	138	-60.552	51.484	63.517	1.00	53.49	A	N
ATOM	193	CE2	TRP	A	138	-61.147	51.197	62.306	1.00	53.49	A	C
ATOM	194	CE3	TRP	A	138	-62.178	49.282	61.268	1.00	53.49	A	C
ATOM	195	CZ2	TRP	A	138	-61.340	51.966	61.188	1.00	53.49	A	C

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Figure 10-4

ATOM	196	CZ3	TRP	A	138	-62.389	50.070	60.154	1.00	53.49	A	C
ATOM	197	CH2	TRP	A	138	-61.974	51.386	60.109	1.00	53.49	A	C
ATOM	198	N	GLN	A	139	-62.968	45.202	63.432	1.00	49.24	A	N
ATOM	199	CA	GLN	A	139	-63.000	43.788	63.658	1.00	49.24	A	C
ATOM	200	C	GLN	A	139	-61.803	43.244	62.940	1.00	49.24	A	C
ATOM	201	O	GLN	A	139	-61.573	43.568	61.776	1.00	49.24	A	O
ATOM	202	CB	GLN	A	139	-64.247	43.106	63.067	1.00	49.24	A	C
ATOM	203	CG	GLN	A	139	-64.351	41.618	63.404	1.00	49.24	A	C
ATOM	204	CD	GLN	A	139	-64.787	41.501	64.858	1.00	49.24	A	C
ATOM	205	OE1	GLN	A	139	-65.616	42.275	65.334	1.00	49.24	A	O
ATOM	206	NE2	GLN	A	139	-64.211	40.508	65.588	1.00	49.24	A	N
ATOM	207	N	PRO	A	140	-61.010	42.454	63.610	1.00	43.32	A	N
ATOM	208	CA	PRO	A	140	-59.803	41.931	63.027	1.00	43.32	A	C
ATOM	209	C	PRO	A	140	-60.069	41.166	61.769	1.00	43.32	A	C
ATOM	210	O	PRO	A	140	-60.657	40.088	61.854	1.00	43.32	A	O
ATOM	211	CB	PRO	A	140	-59.213	41.014	64.093	1.00	43.32	A	C
ATOM	212	CG	PRO	A	140	-60.469	40.486	64.817	1.00	43.32	A	C
ATOM	213	CD	PRO	A	140	-61.469	41.655	64.733	1.00	43.32	A	C
ATOM	214	N	ALA	A	141	-59.636	41.680	60.599	1.00	38.30	A	N
ATOM	215	CA	ALA	A	141	-59.798	40.914	59.400	1.00	38.30	A	C
ATOM	216	C	ALA	A	141	-58.870	39.747	59.469	1.00	38.30	A	C
ATOM	217	O	ALA	A	141	-59.278	38.605	59.267	1.00	38.30	A	O
ATOM	218	CB	ALA	A	141	-59.465	41.705	58.131	1.00	38.30	A	C
ATOM	219	N	LEU	A	142	-57.590	40.018	59.795	1.00	34.74	A	N
ATOM	220	CA	LEU	A	142	-56.601	38.982	59.895	1.00	34.74	A	C
ATOM	221	C	LEU	A	142	-55.374	39.564	60.518	1.00	34.74	A	C
ATOM	222	O	LEU	A	142	-55.105	40.758	60.396	1.00	34.74	A	O
ATOM	223	CB	LEU	A	142	-56.152	38.387	58.548	1.00	34.74	A	C
ATOM	224	CG	LEU	A	142	-57.205	37.524	57.830	1.00	34.74	A	C
ATOM	225	CD1	LEU	A	142	-56.655	36.980	56.499	1.00	34.74	A	C
ATOM	226	CD2	LEU	A	142	-57.729	36.404	58.742	1.00	34.74	A	C
ATOM	227	N	ARG	A	143	-54.598	38.714	61.218	1.00	32.75	A	N
ATOM	228	CA	ARG	A	143	-53.365	39.136	61.814	1.00	32.75	A	C
ATOM	229	C	ARG	A	143	-52.334	38.129	61.423	1.00	32.75	A	C
ATOM	230	O	ARG	A	143	-52.559	36.928	61.559	1.00	32.75	A	O
ATOM	231	CB	ARG	A	143	-53.430	39.157	63.353	1.00	32.75	A	C
ATOM	232	CG	ARG	A	143	-52.136	39.573	64.054	1.00	32.75	A	C
ATOM	233	CD	ARG	A	143	-52.264	39.578	65.580	1.00	32.75	A	C
ATOM	234	NE	ARG	A	143	-50.934	39.923	66.155	1.00	32.75	A	N
ATOM	235	CZ	ARG	A	143	-50.068	38.930	66.508	1.00	32.75	A	C
ATOM	236	NH1	ARG	A	143	-50.422	37.623	66.334	1.00	32.75	A	N
ATOM	237	NH2	ARG	A	143	-48.849	39.242	67.038	1.00	32.75	A	N
ATOM	238	N	ARG	A	144	-51.179	38.583	60.898	1.00	32.80	A	N
ATOM	239	CA	ARG	A	144	-50.177	37.617	60.557	1.00	32.80	A	C
ATOM	240	C	ARG	A	144	-48.842	38.144	60.976	1.00	32.80	A	C
ATOM	241	O	ARG	A	144	-48.438	39.236	60.578	1.00	32.80	A	O
ATOM	242	CB	ARG	A	144	-50.096	37.315	59.051	1.00	32.80	A	C
ATOM	243	CG	ARG	A	144	-49.059	36.246	58.703	1.00	32.80	A	C
ATOM	244	CD	ARG	A	144	-48.966	35.948	57.206	1.00	32.80	A	C
ATOM	245	NE	ARG	A	144	-48.362	37.146	56.560	1.00	32.80	A	N
ATOM	246	CZ	ARG	A	144	-48.011	37.108	55.241	1.00	32.80	A	C
ATOM	247	NH1	ARG	A	144	-48.215	35.972	54.512	1.00	32.80	A	N
ATOM	248	NH2	ARG	A	144	-47.456	38.207	54.653	1.00	32.80	A	N
ATOM	249	N	GLY	A	145	-48.100	37.353	61.778	1.00	35.33	A	N
ATOM	250	CA	GLY	A	145	-46.790	37.765	62.194	1.00	35.33	A	C
ATOM	251	C	GLY	A	145	-46.850	38.295	63.594	1.00	35.33	A	C
ATOM	252	O	GLY	A	145	-47.926	38.565	64.125	1.00	35.33	A	O
ATOM	253	N	ARG	A	146	-45.665	38.389	64.239	1.00	39.72	A	N
ATOM	254	CA	ARG	A	146	-45.494	38.851	65.590	1.00	39.72	A	C
ATOM	255	C	ARG	A	146	-45.766	40.318	65.743	1.00	39.72	A	C
ATOM	256	O	ARG	A	146	-46.526	40.725	66.619	1.00	39.72	A	O
ATOM	257	CB	ARG	A	146	-44.068	38.611	66.115	1.00	39.72	A	C
ATOM	258	CG	ARG	A	146	-42.993	39.316	65.286	1.00	39.72	A	C
ATOM	259	CD	ARG	A	146	-41.570	39.083	65.798	1.00	39.72	A	C
ATOM	260	NE	ARG	A	146	-40.641	39.810	64.889	1.00	39.72	A	N
ATOM	261	CZ	ARG	A	146	-40.149	39.188	63.779	1.00	39.72	A	C

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Figure 10-5

ATOM	262	NH1	ARG	A	146	-40.509	37.900	63.501	1.00	39.72	A	N
ATOM	263	NH2	ARG	A	146	-39.297	39.851	62.944	1.00	39.72	A	N
ATOM	264	N	GLY	A	147	-45.172	41.162	64.879	1.00	44.41	A	N
ATOM	265	CA	GLY	A	147	-45.351	42.573	65.044	1.00	44.41	A	C
ATOM	266	C	GLY	A	147	-46.762	42.865	64.661	1.00	44.41	A	C
ATOM	267	O	GLY	A	147	-47.393	42.060	63.979	1.00	44.41	A	O
ATOM	268	N	LEU	A	148	-47.247	44.078	64.995	1.00	47.49	A	N
ATOM	269	CA	LEU	A	148	-48.597	44.456	64.675	1.00	47.49	A	C
ATOM	270	C	LEU	A	148	-49.629	43.503	65.207	1.00	47.49	A	C
ATOM	271	O	LEU	A	148	-49.786	42.379	64.735	1.00	47.49	A	O
ATOM	272	CB	LEU	A	148	-48.863	44.507	63.160	1.00	47.49	A	C
ATOM	273	CG	LEU	A	148	-47.914	45.410	62.360	1.00	47.49	A	C
ATOM	274	CD1	LEU	A	148	-46.476	44.873	62.404	1.00	47.49	A	C
ATOM	275	CD2	LEU	A	148	-48.417	45.599	60.922	1.00	47.49	A	C
ATOM	276	N	GLN	A	149	-50.303	43.926	66.297	1.00	46.88	A	N
ATOM	277	CA	GLN	A	149	-51.399	43.181	66.850	1.00	46.88	A	C
ATOM	278	C	GLN	A	149	-52.453	44.195	67.199	1.00	46.88	A	C
ATOM	279	O	GLN	A	149	-52.152	45.381	67.326	1.00	46.88	A	O
ATOM	280	CB	GLN	A	149	-50.990	42.424	68.122	1.00	46.88	A	C
ATOM	281	CG	GLN	A	149	-52.028	41.425	68.620	1.00	46.88	A	C
ATOM	282	CD	GLN	A	149	-51.406	40.683	69.791	1.00	46.88	A	C
ATOM	283	OE1	GLN	A	149	-50.243	40.903	70.126	1.00	46.88	A	O
ATOM	284	NE2	GLN	A	149	-52.195	39.776	70.428	1.00	46.88	A	N
ATOM	285	N	ALA	A	150	-53.728	43.774	67.336	1.00	45.60	A	N
ATOM	286	CA	ALA	A	150	-54.758	44.729	67.640	1.00	45.60	A	C
ATOM	287	C	ALA	A	150	-54.772	44.965	69.115	1.00	45.60	A	C
ATOM	288	O	ALA	A	150	-54.794	44.029	69.914	1.00	45.60	A	O
ATOM	289	CB	ALA	A	150	-56.167	44.273	67.224	1.00	45.60	A	C
ATOM	290	N	GLN	A	151	-54.787	46.252	69.510	1.00	44.75	A	N
ATOM	291	CA	GLN	A	151	-54.793	46.614	70.894	1.00	44.75	A	C
ATOM	292	C	GLN	A	151	-56.207	46.945	71.219	1.00	44.75	A	C
ATOM	293	O	GLN	A	151	-57.085	46.087	71.139	1.00	44.75	A	O
ATOM	294	CB	GLN	A	151	-53.925	47.843	71.215	1.00	44.75	A	C
ATOM	295	CG	GLN	A	151	-53.862	48.152	72.712	1.00	44.75	A	C
ATOM	296	CD	GLN	A	151	-52.977	49.373	72.912	1.00	44.75	A	C
ATOM	297	OE1	GLN	A	151	-53.312	50.274	73.679	1.00	44.75	A	O
ATOM	298	NE2	GLN	A	151	-51.808	49.400	72.218	1.00	44.75	A	N
ATOM	299	N	GLY	A	152	-56.473	48.196	71.630	1.00	44.25	A	N
ATOM	300	CA	GLY	A	152	-57.839	48.508	71.905	1.00	44.25	A	C
ATOM	301	C	GLY	A	152	-58.343	49.345	70.778	1.00	44.25	A	C
ATOM	302	O	GLY	A	152	-58.248	50.572	70.814	1.00	44.25	A	O
ATOM	303	N	TYR	A	153	-58.933	48.693	69.755	1.00	46.47	A	N
ATOM	304	CA	TYR	A	153	-59.487	49.431	68.656	1.00	46.47	A	C
ATOM	305	C	TYR	A	153	-58.384	50.041	67.811	1.00	46.47	A	C
ATOM	306	O	TYR	A	153	-58.629	50.663	66.777	1.00	46.47	A	O
ATOM	307	CB	TYR	A	153	-60.474	50.505	69.220	1.00	46.47	A	C
ATOM	308	CG	TYR	A	153	-60.626	51.644	68.276	1.00	46.47	A	C
ATOM	309	CD1	TYR	A	153	-61.496	51.609	67.211	1.00	46.47	A	C
ATOM	310	CD2	TYR	A	153	-59.825	52.748	68.455	1.00	46.47	A	C
ATOM	311	CE1	TYR	A	153	-61.566	52.681	66.351	1.00	46.47	A	C
ATOM	312	CE2	TYR	A	153	-59.892	53.818	67.599	1.00	46.47	A	C
ATOM	313	CZ	TYR	A	153	-60.767	53.782	66.543	1.00	46.47	A	C
ATOM	314	OH	TYR	A	153	-60.835	54.876	65.658	1.00	46.47	A	O
ATOM	315	N	GLY	A	154	-57.107	49.787	68.144	1.00	48.14	A	N
ATOM	316	CA	GLY	A	154	-56.096	50.424	67.348	1.00	48.14	A	C
ATOM	317	C	GLY	A	154	-55.027	49.423	67.053	1.00	48.14	A	C
ATOM	318	O	GLY	A	154	-54.970	48.362	67.672	1.00	48.14	A	O
ATOM	319	N	VAL	A	155	-54.127	49.737	66.093	1.00	50.13	A	N
ATOM	320	CA	VAL	A	155	-53.130	48.751	65.810	1.00	50.13	A	C
ATOM	321	C	VAL	A	155	-51.918	49.084	66.623	1.00	50.13	A	C
ATOM	322	O	VAL	A	155	-51.486	50.236	66.683	1.00	50.13	A	O
ATOM	323	CB	VAL	A	155	-52.715	48.651	64.374	1.00	50.13	A	C
ATOM	324	CG1	VAL	A	155	-51.647	47.544	64.297	1.00	50.13	A	C
ATOM	325	CG2	VAL	A	155	-53.957	48.390	63.502	1.00	50.13	A	C
ATOM	326	N	ARG	A	156	-51.337	48.061	67.279	1.00	52.84	A	N
ATOM	327	CA	ARG	A	156	-50.204	48.293	68.126	1.00	52.84	A	C

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Figure 10-6

ATOM	328	C	ARG	A	156	-48.988	47.743	67.451	1.00	52.84	A	C
ATOM	329	O	ARG	A	156	-49.003	46.616	66.959	1.00	52.84	A	O
ATOM	330	CB	ARG	A	156	-50.301	47.586	69.490	1.00	52.84	A	C
ATOM	331	CG	ARG	A	156	-50.386	46.062	69.378	1.00	52.84	A	C
ATOM	332	CD	ARG	A	156	-50.368	45.335	70.724	1.00	52.84	A	C
ATOM	333	NE	ARG	A	156	-51.713	45.490	71.345	1.00	52.84	A	N
ATOM	334	CZ	ARG	A	156	-52.068	44.697	72.399	1.00	52.84	A	C
ATOM	335	NH1	ARG	A	156	-51.193	43.767	72.879	1.00	52.84	A	N
ATOM	336	NH2	ARG	A	156	-53.300	44.833	72.971	1.00	52.84	A	N
ATOM	337	N	ILE	A	157	-47.880	48.517	67.414	1.00	52.18	A	N
ATOM	338	CA	ILE	A	157	-46.732	47.932	66.783	1.00	52.18	A	C
ATOM	339	C	ILE	A	157	-45.795	47.361	67.795	1.00	52.18	A	C
ATOM	340	O	ILE	A	157	-45.358	48.022	68.733	1.00	52.18	A	O
ATOM	341	CB	ILE	A	157	-45.982	48.748	65.756	1.00	52.18	A	C
ATOM	342	CG1	ILE	A	157	-45.486	50.091	66.291	1.00	52.18	A	C
ATOM	343	CG2	ILE	A	157	-46.899	48.886	64.531	1.00	52.18	A	C
ATOM	344	CD1	ILE	A	157	-46.617	51.104	66.374	1.00	52.18	A	C
ATOM	345	N	GLN	A	158	-45.583	46.036	67.654	1.00	47.14	A	N
ATOM	346	CA	GLN	A	158	-44.735	45.198	68.453	1.00	47.14	A	C
ATOM	347	C	GLN	A	158	-43.279	45.375	68.136	1.00	47.14	A	C
ATOM	348	O	GLN	A	158	-42.439	45.299	69.029	1.00	47.14	A	O
ATOM	349	CB	GLN	A	158	-45.054	43.705	68.263	1.00	47.14	A	C
ATOM	350	CG	GLN	A	158	-46.448	43.306	68.751	1.00	47.14	A	C
ATOM	351	CD	GLN	A	158	-46.432	43.316	70.273	1.00	47.14	A	C
ATOM	352	OE1	GLN	A	158	-47.463	43.140	70.920	1.00	47.14	A	O
ATOM	353	NE2	GLN	A	158	-45.225	43.526	70.864	1.00	47.14	A	N
ATOM	354	N	ASP	A	159	-42.928	45.560	66.847	1.00	40.20	A	N
ATOM	355	CA	ASP	A	159	-41.534	45.650	66.510	1.00	40.20	A	C
ATOM	356	C	ASP	A	159	-41.301	46.883	65.697	1.00	40.20	A	C
ATOM	357	O	ASP	A	159	-41.944	47.098	64.671	1.00	40.20	A	O
ATOM	358	CB	ASP	A	159	-41.025	44.438	65.709	1.00	40.20	A	C
ATOM	359	CG	ASP	A	159	-41.794	44.373	64.402	1.00	40.20	A	C
ATOM	360	OD1	ASP	A	159	-43.043	44.547	64.433	1.00	40.20	A	O
ATOM	361	OD2	ASP	A	159	-41.133	44.149	63.353	1.00	40.20	A	O
ATOM	362	N	ALA	A	160	-40.346	47.728	66.132	1.00	33.14	A	N
ATOM	363	CA	ALA	A	160	-40.086	48.950	65.429	1.00	33.14	A	C
ATOM	364	C	ALA	A	160	-39.569	48.602	64.070	1.00	33.14	A	C
ATOM	365	O	ALA	A	160	-38.861	47.611	63.896	1.00	33.14	A	O
ATOM	366	CB	ALA	A	160	-39.037	49.846	66.112	1.00	33.14	A	C
ATOM	367	N	GLY	A	161	-39.929	49.421	63.058	1.00	29.02	A	N
ATOM	368	CA	GLY	A	161	-39.492	49.156	61.719	1.00	29.02	A	C
ATOM	369	C	GLY	A	161	-40.256	50.058	60.798	1.00	29.02	A	C
ATOM	370	O	GLY	A	161	-40.894	51.014	61.236	1.00	29.02	A	O
ATOM	371	N	VAL	A	162	-40.203	49.767	59.482	1.00	31.57	A	N
ATOM	372	CA	VAL	A	162	-40.875	50.582	58.508	1.00	31.57	A	C
ATOM	373	C	VAL	A	162	-42.173	49.920	58.169	1.00	31.57	A	C
ATOM	374	O	VAL	A	162	-42.237	48.704	58.006	1.00	31.57	A	O
ATOM	375	CB	VAL	A	162	-40.104	50.723	57.231	1.00	31.57	A	C
ATOM	376	CG1	VAL	A	162	-39.937	49.323	56.616	1.00	31.57	A	C
ATOM	377	CG2	VAL	A	162	-40.842	51.717	56.319	1.00	31.57	A	C
ATOM	378	N	TYR	A	163	-43.257	50.718	58.069	1.00	36.28	A	N
ATOM	379	CA	TYR	A	163	-44.541	50.145	57.791	1.00	36.28	A	C
ATOM	380	C	TYR	A	163	-45.242	50.903	56.709	1.00	36.28	A	C
ATOM	381	O	TYR	A	163	-45.133	52.124	56.601	1.00	36.28	A	O
ATOM	382	CB	TYR	A	163	-45.503	50.195	58.985	1.00	36.28	A	C
ATOM	383	CG	TYR	A	163	-45.015	49.250	60.017	1.00	36.28	A	C
ATOM	384	CD1	TYR	A	163	-44.005	49.598	60.886	1.00	36.28	A	C
ATOM	385	CD2	TYR	A	163	-45.587	48.007	60.108	1.00	36.28	A	C
ATOM	386	CE1	TYR	A	163	-43.569	48.708	61.839	1.00	36.28	A	C
ATOM	387	CE2	TYR	A	163	-45.154	47.121	61.056	1.00	36.28	A	C
ATOM	388	CZ	TYR	A	163	-44.145	47.464	61.920	1.00	36.28	A	C
ATOM	389	OH	TYR	A	163	-43.717	46.533	62.887	1.00	36.28	A	O
ATOM	390	N	LEU	A	164	-45.994	50.160	55.871	1.00	39.72	A	N
ATOM	391	CA	LEU	A	164	-46.849	50.772	54.899	1.00	39.72	A	C
ATOM	392	C	LEU	A	164	-48.186	50.775	55.567	1.00	39.72	A	C
ATOM	393	O	LEU	A	164	-48.692	49.727	55.965	1.00	39.72	A	O

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Figure 10-7

ATOM	394	CB	LEU	A	164	-46.966	49.978	53.585	1.00	39.72	A	C
ATOM	395	CG	LEU	A	164	-47.909	50.603	52.538	1.00	39.72	A	C
ATOM	396	CD1	LEU	A	164	-47.390	51.964	52.050	1.00	39.72	A	C
ATOM	397	CD2	LEU	A	164	-48.193	49.620	51.388	1.00	39.72	A	C
ATOM	398	N	LEU	A	165	-48.774	51.972	55.732	1.00	44.09	A	N
ATOM	399	CA	LEU	A	165	-50.011	52.138	56.441	1.00	44.09	A	C
ATOM	400	C	LEU	A	165	-51.054	52.670	55.514	1.00	44.09	A	C
ATOM	401	O	LEU	A	165	-50.818	53.644	54.801	1.00	44.09	A	O
ATOM	402	CB	LEU	A	165	-49.844	53.160	57.578	1.00	44.09	A	C
ATOM	403	CG	LEU	A	165	-51.142	53.700	58.199	1.00	44.09	A	C
ATOM	404	CD1	LEU	A	165	-52.063	52.592	58.728	1.00	44.09	A	C
ATOM	405	CD2	LEU	A	165	-50.799	54.767	59.253	1.00	44.09	A	C
ATOM	406	N	TYR	A	166	-52.240	52.027	55.480	1.00	45.50	A	N
ATOM	407	CA	TYR	A	166	-53.294	52.573	54.676	1.00	45.50	A	C
ATOM	408	C	TYR	A	166	-54.613	52.462	55.377	1.00	45.50	A	C
ATOM	409	O	TYR	A	166	-54.823	51.586	56.215	1.00	45.50	A	O
ATOM	410	CB	TYR	A	166	-53.395	52.018	53.237	1.00	45.50	A	C
ATOM	411	CG	TYR	A	166	-53.411	50.528	53.213	1.00	45.50	A	C
ATOM	412	CD1	TYR	A	166	-52.223	49.835	53.245	1.00	45.50	A	C
ATOM	413	CD2	TYR	A	166	-54.591	49.828	53.131	1.00	45.50	A	C
ATOM	414	CE1	TYR	A	166	-52.210	48.462	53.212	1.00	45.50	A	C
ATOM	415	CE2	TYR	A	166	-54.584	48.453	53.097	1.00	45.50	A	C
ATOM	416	CZ	TYR	A	166	-53.393	47.768	53.138	1.00	45.50	A	C
ATOM	417	OH	TYR	A	166	-53.384	46.359	53.103	1.00	45.50	A	O
ATOM	418	N	SER	A	167	-55.531	53.407	55.071	1.00	46.49	A	N
ATOM	419	CA	SER	A	167	-56.829	53.391	55.685	1.00	46.49	A	C
ATOM	420	C	SER	A	167	-57.821	53.992	54.738	1.00	46.49	A	C
ATOM	421	O	SER	A	167	-57.527	54.965	54.043	1.00	46.49	A	O
ATOM	422	CB	SER	A	167	-56.906	54.211	56.984	1.00	46.49	A	C
ATOM	423	OG	SER	A	167	-56.713	55.589	56.702	1.00	46.49	A	O
ATOM	424	N	GLN	A	168	-59.042	53.418	54.705	1.00	49.22	A	N
ATOM	425	CA	GLN	A	168	-60.055	53.918	53.823	1.00	49.22	A	C
ATOM	426	C	GLN	A	168	-61.369	53.855	54.536	1.00	49.22	A	C
ATOM	427	O	GLN	A	168	-61.636	52.924	55.298	1.00	49.22	A	O
ATOM	428	CB	GLN	A	168	-60.179	53.078	52.545	1.00	49.22	A	C
ATOM	429	CG	GLN	A	168	-61.239	53.562	51.557	1.00	49.22	A	C
ATOM	430	CD	GLN	A	168	-61.200	52.601	50.378	1.00	49.22	A	C
ATOM	431	OE1	GLN	A	168	-61.542	51.430	50.520	1.00	49.22	A	O
ATOM	432	NE2	GLN	A	168	-60.757	53.094	49.191	1.00	49.22	A	N
ATOM	433	N	VAL	A	169	-62.228	54.868	54.310	1.00	51.74	A	N
ATOM	434	CA	VAL	A	169	-63.523	54.897	54.927	1.00	51.74	A	C
ATOM	435	C	VAL	A	169	-64.492	55.465	53.938	1.00	51.74	A	C
ATOM	436	O	VAL	A	169	-64.160	56.374	53.180	1.00	51.74	A	O
ATOM	437	CB	VAL	A	169	-63.545	55.760	56.151	1.00	51.74	A	C
ATOM	438	CG1	VAL	A	169	-62.867	57.091	55.794	1.00	51.74	A	C
ATOM	439	CG2	VAL	A	169	-65.001	55.925	56.620	1.00	51.74	A	C
ATOM	440	N	LEU	A	170	-65.733	54.937	53.928	1.00	56.37	A	N
ATOM	441	CA	LEU	A	170	-66.715	55.401	52.992	1.00	56.37	A	C
ATOM	442	C	LEU	A	170	-67.556	56.412	53.710	1.00	56.37	A	C
ATOM	443	O	LEU	A	170	-68.226	56.093	54.691	1.00	56.37	A	O
ATOM	444	CB	LEU	A	170	-67.630	54.264	52.496	1.00	56.37	A	C
ATOM	445	CG	LEU	A	170	-68.587	54.629	51.341	1.00	56.37	A	C
ATOM	446	CD1	LEU	A	170	-69.633	55.672	51.756	1.00	56.37	A	C
ATOM	447	CD2	LEU	A	170	-67.810	55.024	50.076	1.00	56.37	A	C
ATOM	448	N	PHE	A	171	-67.551	57.670	53.225	1.00	60.65	A	N
ATOM	449	CA	PHE	A	171	-68.284	58.704	53.896	1.00	60.65	A	C
ATOM	450	C	PHE	A	171	-69.641	58.842	53.269	1.00	60.65	A	C
ATOM	451	O	PHE	A	171	-69.767	59.102	52.073	1.00	60.65	A	O
ATOM	452	CB	PHE	A	171	-67.606	60.081	53.822	1.00	60.65	A	C
ATOM	453	CG	PHE	A	171	-66.313	59.994	54.557	1.00	60.65	A	C
ATOM	454	CD1	PHE	A	171	-66.290	60.007	55.932	1.00	60.65	A	C
ATOM	455	CD2	PHE	A	171	-65.124	59.911	53.871	1.00	60.65	A	C
ATOM	456	CE1	PHE	A	171	-65.098	59.930	56.613	1.00	60.65	A	C
ATOM	457	CE2	PHE	A	171	-63.929	59.835	54.546	1.00	60.65	A	C
ATOM	458	CZ	PHE	A	171	-63.916	59.845	55.920	1.00	60.65	A	C
ATOM	459	N	GLN	A	172	-70.686	58.543	54.071	1.00	67.06	A	N

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Figure 10-8

ATOM	460	CA	GLN	A	172	-72.085	58.696	53.763	1.00	67.06	A	C
ATOM	461	C	GLN	A	172	-72.577	60.085	54.060	1.00	67.06	A	C
ATOM	462	O	GLN	A	172	-73.676	60.444	53.651	1.00	67.06	A	O
ATOM	463	CB	GLN	A	172	-73.011	57.691	54.479	1.00	67.06	A	C
ATOM	464	CG	GLN	A	172	-73.133	57.873	55.989	1.00	67.06	A	C
ATOM	465	CD	GLN	A	172	-74.078	56.804	56.516	1.00	67.06	A	C
ATOM	466	OE1	GLN	A	172	-74.296	55.778	55.873	1.00	67.06	A	O
ATOM	467	NE2	GLN	A	172	-74.657	57.047	57.722	1.00	67.06	A	N
ATOM	468	N	ASP	A	173	-71.831	60.848	54.883	1.00	71.27	A	N
ATOM	469	CA	ASP	A	173	-72.210	62.145	55.393	1.00	71.27	A	C
ATOM	470	C	ASP	A	173	-72.310	63.178	54.295	1.00	71.27	A	C
ATOM	471	O	ASP	A	173	-71.551	63.174	53.327	1.00	71.27	A	O
ATOM	472	CB	ASP	A	173	-71.190	62.648	56.439	1.00	71.27	A	C
ATOM	473	CG	ASP	A	173	-71.769	63.748	57.323	1.00	71.27	A	C
ATOM	474	OD1	ASP	A	173	-72.416	64.690	56.797	1.00	71.27	A	O
ATOM	475	OD2	ASP	A	173	-71.547	63.665	58.560	1.00	71.27	A	O
ATOM	476	N	VAL	A	174	-73.322	64.062	54.434	1.00	71.57	A	N
ATOM	477	CA	VAL	A	174	-73.705	65.181	53.609	1.00	71.57	A	C
ATOM	478	C	VAL	A	174	-72.799	66.376	53.773	1.00	71.57	A	C
ATOM	479	O	VAL	A	174	-72.741	67.226	52.886	1.00	71.57	A	O
ATOM	480	CB	VAL	A	174	-75.104	65.623	53.919	1.00	71.57	A	C
ATOM	481	CG1	VAL	A	174	-75.449	66.881	53.105	1.00	71.57	A	C
ATOM	482	CG2	VAL	A	174	-76.037	64.433	53.651	1.00	71.57	A	C
ATOM	483	N	THR	A	175	-72.105	66.496	54.924	1.00	70.41	A	N
ATOM	484	CA	THR	A	175	-71.305	67.635	55.302	1.00	70.41	A	C
ATOM	485	C	THR	A	175	-70.461	68.063	54.146	1.00	70.41	A	C
ATOM	486	O	THR	A	175	-70.141	67.272	53.263	1.00	70.41	A	O
ATOM	487	CB	THR	A	175	-70.332	67.311	56.395	1.00	70.41	A	C
ATOM	488	OG1	THR	A	175	-70.999	66.731	57.498	1.00	70.41	A	O
ATOM	489	CG2	THR	A	175	-69.662	68.606	56.853	1.00	70.41	A	C
ATOM	490	N	PHE	A	176	-70.046	69.346	54.153	1.00	61.11	A	N
ATOM	491	CA	PHE	A	176	-69.319	69.888	53.048	1.00	61.11	A	C
ATOM	492	C	PHE	A	176	-68.107	69.050	52.806	1.00	61.11	A	C
ATOM	493	O	PHE	A	176	-67.825	68.701	51.661	1.00	61.11	A	O
ATOM	494	CB	PHE	A	176	-68.896	71.352	53.268	1.00	61.11	A	C
ATOM	495	CG	PHE	A	176	-68.081	71.438	54.511	1.00	61.11	A	C
ATOM	496	CD1	PHE	A	176	-68.693	71.557	55.737	1.00	61.11	A	C
ATOM	497	CD2	PHE	A	176	-66.709	71.405	54.452	1.00	61.11	A	C
ATOM	498	CE1	PHE	A	176	-67.948	71.641	56.890	1.00	61.11	A	C
ATOM	499	CE2	PHE	A	176	-65.959	71.490	55.601	1.00	61.11	A	C
ATOM	500	CZ	PHE	A	176	-66.576	71.608	56.823	1.00	61.11	A	C
ATOM	501	N	THR	A	177	-67.347	68.692	53.857	1.00	51.28	A	N
ATOM	502	CA	THR	A	177	-66.219	67.847	53.584	1.00	51.28	A	C
ATOM	503	C	THR	A	177	-66.088	66.834	54.678	1.00	51.28	A	C
ATOM	504	O	THR	A	177	-66.461	67.082	55.823	1.00	51.28	A	O
ATOM	505	CB	THR	A	177	-64.913	68.579	53.517	1.00	51.28	A	C
ATOM	506	OG1	THR	A	177	-63.908	67.737	52.970	1.00	51.28	A	O
ATOM	507	CG2	THR	A	177	-64.517	69.006	54.940	1.00	51.28	A	C
ATOM	508	N	MET	A	178	-65.539	65.651	54.336	1.00	42.34	A	N
ATOM	509	CA	MET	A	178	-65.347	64.618	55.315	1.00	42.34	A	C
ATOM	510	C	MET	A	178	-63.980	64.047	55.093	1.00	42.34	A	C
ATOM	511	O	MET	A	178	-63.372	64.271	54.049	1.00	42.34	A	O
ATOM	512	CB	MET	A	178	-66.360	63.465	55.202	1.00	42.34	A	C
ATOM	513	CG	MET	A	178	-67.793	63.883	55.536	1.00	42.34	A	C
ATOM	514	SD	MET	A	178	-68.053	64.361	57.270	1.00	42.34	A	S
ATOM	515	CE	MET	A	178	-68.061	62.664	57.913	1.00	42.34	A	C
ATOM	516	N	GLY	A	179	-63.441	63.311	56.088	1.00	35.34	A	N
ATOM	517	CA	GLY	A	179	-62.135	62.741	55.919	1.00	35.34	A	C
ATOM	518	C	GLY	A	179	-61.706	62.118	57.210	1.00	35.34	A	C
ATOM	519	O	GLY	A	179	-62.377	62.246	58.234	1.00	35.34	A	O
ATOM	520	N	GLN	A	180	-60.550	61.419	57.188	1.00	34.51	A	N
ATOM	521	CA	GLN	A	180	-60.092	60.761	58.377	1.00	34.51	A	C
ATOM	522	C	GLN	A	180	-58.629	61.004	58.536	1.00	34.51	A	C
ATOM	523	O	GLN	A	180	-57.944	61.438	57.611	1.00	34.51	A	O
ATOM	524	CB	GLN	A	180	-60.310	59.239	58.336	1.00	34.51	A	C
ATOM	525	CG	GLN	A	180	-59.516	58.541	57.230	1.00	34.51	A	C

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Figure 10-9

ATOM	526	CD	GLN	A	180	-59.901	57.069	57.228	1.00	34.51	A	C
ATOM	527	OE1	GLN	A	180	-59.336	56.265	56.489	1.00	34.51	A	O
ATOM	528	NE2	GLN	A	180	-60.898	56.703	58.079	1.00	34.51	A	N
ATOM	529	N	VAL	A	181	-58.118	60.752	59.755	1.00	37.80	A	N
ATOM	530	CA	VAL	A	181	-56.721	60.936	59.992	1.00	37.80	A	C
ATOM	531	C	VAL	A	181	-56.168	59.635	60.463	1.00	37.80	A	C
ATOM	532	O	VAL	A	181	-56.742	58.977	61.331	1.00	37.80	A	O
ATOM	533	CB	VAL	A	181	-56.426	61.958	61.050	1.00	37.80	A	C
ATOM	534	CG1	VAL	A	181	-56.936	63.326	60.563	1.00	37.80	A	C
ATOM	535	CG2	VAL	A	181	-57.064	61.497	62.372	1.00	37.80	A	C
ATOM	536	N	VAL	A	182	-55.041	59.205	59.866	1.00	42.17	A	N
ATOM	537	CA	VAL	A	182	-54.415	58.036	60.394	1.00	42.17	A	C
ATOM	538	C	VAL	A	182	-53.353	58.594	61.282	1.00	42.17	A	C
ATOM	539	O	VAL	A	182	-52.419	59.255	60.832	1.00	42.17	A	O
ATOM	540	CB	VAL	A	182	-53.842	57.103	59.360	1.00	42.17	A	C
ATOM	541	CG1	VAL	A	182	-52.728	57.789	58.549	1.00	42.17	A	C
ATOM	542	CG2	VAL	A	182	-53.414	55.825	60.096	1.00	42.17	A	C
ATOM	543	N	SER	A	183	-53.483	58.359	62.599	1.00	45.27	A	N
ATOM	544	CA	SER	A	183	-52.582	59.026	63.488	1.00	45.27	A	C
ATOM	545	C	SER	A	183	-51.744	58.040	64.226	1.00	45.27	A	C
ATOM	546	O	SER	A	183	-52.049	56.848	64.279	1.00	45.27	A	O
ATOM	547	CB	SER	A	183	-53.298	59.891	64.540	1.00	45.27	A	C
ATOM	548	OG	SER	A	183	-54.012	60.941	63.905	1.00	45.27	A	O
ATOM	549	N	ARG	A	184	-50.623	58.530	64.797	1.00	48.52	A	N
ATOM	550	CA	ARG	A	184	-49.801	57.647	65.561	1.00	48.52	A	C
ATOM	551	C	ARG	A	184	-49.769	58.116	66.974	1.00	48.52	A	C
ATOM	552	O	ARG	A	184	-49.520	59.288	67.254	1.00	48.52	A	O
ATOM	553	CB	ARG	A	184	-48.336	57.528	65.098	1.00	48.52	A	C
ATOM	554	CG	ARG	A	184	-47.509	58.807	65.196	1.00	48.52	A	C
ATOM	555	CD	ARG	A	184	-46.122	58.664	64.568	1.00	48.52	A	C
ATOM	556	NE	ARG	A	184	-45.299	57.784	65.445	1.00	48.52	A	N
ATOM	557	CZ	ARG	A	184	-44.491	58.351	66.387	1.00	48.52	A	C
ATOM	558	NH1	ARG	A	184	-44.487	59.706	66.548	1.00	48.52	A	N
ATOM	559	NH2	ARG	A	184	-43.682	57.570	67.160	1.00	48.52	A	N
ATOM	560	N	GLU	A	185	-50.049	57.189	67.909	1.00	48.59	A	N
ATOM	561	CA	GLU	A	185	-49.922	57.513	69.296	1.00	48.59	A	C
ATOM	562	C	GLU	A	185	-48.552	57.054	69.628	1.00	48.59	A	C
ATOM	563	O	GLU	A	185	-48.287	55.856	69.727	1.00	48.59	A	O
ATOM	564	CB	GLU	A	185	-50.901	56.756	70.211	1.00	48.59	A	C
ATOM	565	CG	GLU	A	185	-52.360	57.168	70.011	1.00	48.59	A	C
ATOM	566	CD	GLU	A	185	-52.505	58.614	70.464	1.00	48.59	A	C
ATOM	567	OE1	GLU	A	185	-51.476	59.209	70.882	1.00	48.59	A	O
ATOM	568	OE2	GLU	A	185	-53.645	59.145	70.394	1.00	48.59	A	O
ATOM	569	N	GLY	A	186	-47.631	58.011	69.803	1.00	50.68	A	N
ATOM	570	CA	GLY	A	186	-46.283	57.600	69.996	1.00	50.68	A	C
ATOM	571	C	GLY	A	186	-46.060	57.251	71.415	1.00	50.68	A	C
ATOM	572	O	GLY	A	186	-46.830	57.601	72.310	1.00	50.68	A	O
ATOM	573	N	GLN	A	187	-44.917	56.574	71.635	1.00	55.20	A	N
ATOM	574	CA	GLN	A	187	-44.443	56.358	72.959	1.00	55.20	A	C
ATOM	575	C	GLN	A	187	-44.219	57.770	73.378	1.00	55.20	A	C
ATOM	576	O	GLN	A	187	-44.403	58.139	74.536	1.00	55.20	A	O
ATOM	577	CB	GLN	A	187	-43.091	55.625	73.020	1.00	55.20	A	C
ATOM	578	CG	GLN	A	187	-41.930	56.411	72.406	1.00	55.20	A	C
ATOM	579	CD	GLN	A	187	-42.076	56.370	70.893	1.00	55.20	A	C
ATOM	580	OE1	GLN	A	187	-42.127	55.298	70.292	1.00	55.20	A	O
ATOM	581	NE2	GLN	A	187	-42.148	57.569	70.255	1.00	55.20	A	N
ATOM	582	N	GLY	A	188	-43.821	58.588	72.378	1.00	56.44	A	N
ATOM	583	CA	GLY	A	188	-43.699	60.008	72.471	1.00	56.44	A	C
ATOM	584	C	GLY	A	188	-45.088	60.564	72.235	1.00	56.44	A	C
ATOM	585	O	GLY	A	188	-46.057	60.023	72.760	1.00	56.44	A	O
ATOM	586	N	ARG	A	189	-45.221	61.667	71.455	1.00	56.19	A	N
ATOM	587	CA	ARG	A	189	-46.482	62.352	71.240	1.00	56.19	A	C
ATOM	588	C	ARG	A	189	-47.274	61.752	70.099	1.00	56.19	A	C
ATOM	589	O	ARG	A	189	-46.808	60.859	69.393	1.00	56.19	A	O
ATOM	590	CB	ARG	A	189	-46.302	63.856	70.957	1.00	56.19	A	C
ATOM	591	CG	ARG	A	189	-47.603	64.663	71.000	1.00	56.19	A	C

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Figure 10-10

ATOM	592	CD	ARG	A	189	-47.404	66.165	70.777	1.00	56.19	A	C
ATOM	593	NE	ARG	A	189	-47.210	66.385	69.317	1.00	56.19	A	N
ATOM	594	CZ	ARG	A	189	-48.294	66.559	68.505	1.00	56.19	A	C
ATOM	595	NH1	ARG	A	189	-49.552	66.532	69.031	1.00	56.19	A	N
ATOM	596	NH2	ARG	A	189	-48.117	66.762	67.166	1.00	56.19	A	N
ATOM	597	N	GLN	A	190	-48.538	62.225	69.928	1.00	52.24	A	N
ATOM	598	CA	GLN	A	190	-49.432	61.754	68.898	1.00	52.24	A	C
ATOM	599	C	GLN	A	190	-49.435	62.732	67.766	1.00	52.24	A	C
ATOM	600	O	GLN	A	190	-49.506	63.941	67.968	1.00	52.24	A	O
ATOM	601	CB	GLN	A	190	-50.884	61.571	69.383	1.00	52.24	A	C
ATOM	602	CG	GLN	A	190	-51.585	62.865	69.810	1.00	52.24	A	C
ATOM	603	CD	GLN	A	190	-52.153	63.545	68.571	1.00	52.24	A	C
ATOM	604	OE1	GLN	A	190	-52.017	64.754	68.391	1.00	52.24	A	O
ATOM	605	NE2	GLN	A	190	-52.817	62.747	67.692	1.00	52.24	A	N
ATOM	606	N	GLU	A	191	-49.337	62.213	66.526	1.00	45.63	A	N
ATOM	607	CA	GLU	A	191	-49.342	63.056	65.365	1.00	45.63	A	C
ATOM	608	C	GLU	A	191	-50.093	62.326	64.298	1.00	45.63	A	C
ATOM	609	O	GLU	A	191	-50.303	61.119	64.398	1.00	45.63	A	O
ATOM	610	CB	GLU	A	191	-47.934	63.361	64.827	1.00	45.63	A	C
ATOM	611	CG	GLU	A	191	-47.908	64.395	63.699	1.00	45.63	A	C
ATOM	612	CD	GLU	A	191	-46.457	64.589	63.281	1.00	45.63	A	C
ATOM	613	OE1	GLU	A	191	-45.597	63.794	63.746	1.00	45.63	A	O
ATOM	614	OE2	GLU	A	191	-46.188	65.535	62.494	1.00	45.63	A	O
ATOM	615	N	THR	A	192	-50.532	63.043	63.242	1.00	41.18	A	N
ATOM	616	CA	THR	A	192	-51.269	62.379	62.205	1.00	41.18	A	C
ATOM	617	C	THR	A	192	-50.341	62.159	61.054	1.00	41.18	A	C
ATOM	618	O	THR	A	192	-49.776	63.103	60.505	1.00	41.18	A	O
ATOM	619	CB	THR	A	192	-52.434	63.168	61.680	1.00	41.18	A	C
ATOM	620	OG1	THR	A	192	-51.980	64.341	61.020	1.00	41.18	A	O
ATOM	621	CG2	THR	A	192	-53.344	63.546	62.861	1.00	41.18	A	C
ATOM	622	N	LEU	A	193	-50.125	60.877	60.697	1.00	40.86	A	N
ATOM	623	CA	LEU	A	193	-49.245	60.537	59.617	1.00	40.86	A	C
ATOM	624	C	LEU	A	193	-49.827	60.966	58.306	1.00	40.86	A	C
ATOM	625	O	LEU	A	193	-49.177	61.672	57.536	1.00	40.86	A	O
ATOM	626	CB	LEU	A	193	-48.983	59.024	59.532	1.00	40.86	A	C
ATOM	627	CG	LEU	A	193	-48.245	58.456	60.761	1.00	40.86	A	C
ATOM	628	CD1	LEU	A	193	-49.073	58.626	62.044	1.00	40.86	A	C
ATOM	629	CD2	LEU	A	193	-47.822	56.998	60.532	1.00	40.86	A	C
ATOM	630	N	PHE	A	194	-51.088	60.574	58.027	1.00	41.35	A	N
ATOM	631	CA	PHE	A	194	-51.655	60.904	56.751	1.00	41.35	A	C
ATOM	632	C	PHE	A	194	-53.105	61.202	56.973	1.00	41.35	A	C
ATOM	633	O	PHE	A	194	-53.689	60.764	57.962	1.00	41.35	A	O
ATOM	634	CB	PHE	A	194	-51.599	59.740	55.748	1.00	41.35	A	C
ATOM	635	CG	PHE	A	194	-50.178	59.297	55.655	1.00	41.35	A	C
ATOM	636	CD1	PHE	A	194	-49.290	59.930	54.818	1.00	41.35	A	C
ATOM	637	CD2	PHE	A	194	-49.733	58.249	56.429	1.00	41.35	A	C
ATOM	638	CE1	PHE	A	194	-47.981	59.512	54.745	1.00	41.35	A	C
ATOM	639	CE2	PHE	A	194	-48.426	57.826	56.359	1.00	41.35	A	C
ATOM	640	CZ	PHE	A	194	-47.547	58.461	55.516	1.00	41.35	A	C
ATOM	641	N	ARG	A	195	-53.725	61.969	56.051	1.00	42.11	A	N
ATOM	642	CA	ARG	A	195	-55.116	62.284	56.207	1.00	42.11	A	C
ATOM	643	O	ARG	A	195	-55.767	62.227	54.862	1.00	42.11	A	C
ATOM	644	C	ARG	A	195	-55.106	62.344	53.831	1.00	42.11	A	O
ATOM	645	CB	ARG	A	195	-55.368	63.681	56.800	1.00	42.11	A	C
ATOM	646	CG	ARG	A	195	-54.782	64.827	55.973	1.00	42.11	A	C
ATOM	647	CD	ARG	A	195	-54.965	66.197	56.628	1.00	42.11	A	C
ATOM	648	NE	ARG	A	195	-54.354	67.215	55.726	1.00	42.11	A	N
ATOM	649	CZ	ARG	A	195	-55.098	67.779	54.728	1.00	42.11	A	C
ATOM	650	NH1	ARG	A	195	-56.405	67.423	54.564	1.00	42.11	A	N
ATOM	651	NH2	ARG	A	195	-54.530	68.702	53.896	1.00	42.11	A	N
ATOM	652	N	CYS	A	196	-57.102	62.024	54.847	1.00	42.45	A	N
ATOM	653	CA	CYS	A	196	-57.805	61.932	53.603	1.00	42.45	A	C
ATOM	654	C	CYS	A	196	-58.959	62.887	53.710	1.00	42.45	A	C
ATOM	655	O	CYS	A	196	-59.566	63.013	54.774	1.00	42.45	A	O
ATOM	656	CB	CYS	A	196	-58.338	60.502	53.370	1.00	42.45	A	C
ATOM	657	SG	CYS	A	196	-58.559	60.053	51.623	1.00	42.45	A	S

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Figure 10-11

ATOM	658	N	ILE	A	197	-59.263	63.631	52.627	1.00	39.20	A	N
ATOM	659	CA	ILE	A	197	-60.360	64.558	52.690	1.00	39.20	A	C
ATOM	660	C	ILE	A	197	-61.147	64.455	51.423	1.00	39.20	A	C
ATOM	661	O	ILE	A	197	-60.580	64.319	50.340	1.00	39.20	A	O
ATOM	662	CB	ILE	A	197	-59.927	65.988	52.826	1.00	39.20	A	C
ATOM	663	CG1	ILE	A	197	-61.136	66.888	53.130	1.00	39.20	A	C
ATOM	664	CG2	ILE	A	197	-59.168	66.374	51.545	1.00	39.20	A	C
ATOM	665	CD1	ILE	A	197	-61.775	66.614	54.491	1.00	39.20	A	C
ATOM	666	N	ARG	A	198	-62.492	64.508	51.528	1.00	37.08	A	N
ATOM	667	CA	ARG	A	198	-63.288	64.434	50.338	1.00	37.08	A	C
ATOM	668	C	ARG	A	198	-64.452	65.363	50.490	1.00	37.08	A	C
ATOM	669	O	ARG	A	198	-65.064	65.444	51.554	1.00	37.08	A	O
ATOM	670	CB	ARG	A	198	-63.861	63.032	50.072	1.00	37.08	A	C
ATOM	671	CG	ARG	A	198	-64.650	62.931	48.766	1.00	37.08	A	C
ATOM	672	CD	ARG	A	198	-63.777	63.082	47.518	1.00	37.08	A	C
ATOM	673	NE	ARG	A	198	-62.795	61.961	47.522	1.00	37.08	A	N
ATOM	674	CZ	ARG	A	198	-61.931	61.806	46.476	1.00	37.08	A	C
ATOM	675	NH1	ARG	A	198	-61.971	62.675	45.424	1.00	37.08	A	N
ATOM	676	NH2	ARG	A	198	-61.029	60.781	46.482	1.00	37.08	A	N
ATOM	677	N	SER	A	199	-64.782	66.104	49.413	1.00	34.75	A	N
ATOM	678	CA	SER	A	199	-65.915	66.976	49.475	1.00	34.75	A	C
ATOM	679	C	SER	A	199	-67.120	66.108	49.334	1.00	34.75	A	C
ATOM	680	O	SER	A	199	-67.082	65.087	48.651	1.00	34.75	A	O
ATOM	681	CB	SER	A	199	-65.962	68.023	48.349	1.00	34.75	A	C
ATOM	682	OG	SER	A	199	-67.115	68.840	48.491	1.00	34.75	A	O
ATOM	683	N	MET	A	200	-68.233	66.504	49.974	1.00	33.48	A	N
ATOM	684	CA	MET	A	200	-69.421	65.697	49.928	1.00	33.48	A	C
ATOM	685	C	MET	A	200	-70.487	66.493	49.246	1.00	33.48	A	C
ATOM	686	O	MET	A	200	-70.574	67.710	49.398	1.00	33.48	A	O
ATOM	687	CB	MET	A	200	-69.976	65.335	51.318	1.00	33.48	A	C
ATOM	688	CG	MET	A	200	-69.063	64.454	52.180	1.00	33.48	A	C
ATOM	689	SD	MET	A	200	-68.863	62.735	51.618	1.00	33.48	A	S
ATOM	690	CE	MET	A	200	-67.513	63.070	50.453	1.00	33.48	A	C
ATOM	691	N	PRO	A	201	-71.289	65.805	48.480	1.00	34.55	A	N
ATOM	692	CA	PRO	A	201	-72.394	66.407	47.783	1.00	34.55	A	C
ATOM	693	C	PRO	A	201	-73.514	66.656	48.741	1.00	34.55	A	C
ATOM	694	O	PRO	A	201	-73.462	66.153	49.862	1.00	34.55	A	O
ATOM	695	CB	PRO	A	201	-72.752	65.447	46.647	1.00	34.55	A	C
ATOM	696	CG	PRO	A	201	-72.041	64.130	47.003	1.00	34.55	A	C
ATOM	697	CD	PRO	A	201	-70.833	64.588	47.831	1.00	34.55	A	C
ATOM	698	N	SER	A	202	-74.543	67.418	48.318	1.00	35.65	A	N
ATOM	699	CA	SER	A	202	-75.618	67.747	49.206	1.00	35.65	A	C
ATOM	700	C	SER	A	202	-76.203	66.473	49.718	1.00	35.65	A	C
ATOM	701	O	SER	A	202	-75.910	65.393	49.209	1.00	35.65	A	O
ATOM	702	CB	SER	A	202	-76.750	68.549	48.539	1.00	35.65	A	C
ATOM	703	OG	SER	A	202	-77.770	68.830	49.486	1.00	35.65	A	O
ATOM	704	N	HIS	A	203	-77.027	66.579	50.780	1.00	37.84	A	N
ATOM	705	CA	HIS	A	203	-77.644	65.429	51.377	1.00	37.84	A	C
ATOM	706	C	HIS	A	203	-78.502	64.776	50.347	1.00	37.84	A	C
ATOM	707	O	HIS	A	203	-78.502	63.551	50.228	1.00	37.84	A	O
ATOM	708	CB	HIS	A	203	-78.527	65.769	52.596	1.00	37.84	A	C
ATOM	709	CG	HIS	A	203	-79.271	64.584	53.144	1.00	37.84	A	C
ATOM	710	ND1	HIS	A	203	-78.774	63.708	54.083	1.00	37.84	A	N
ATOM	711	CD2	HIS	A	203	-80.524	64.138	52.850	1.00	37.84	A	C
ATOM	712	CE1	HIS	A	203	-79.741	62.784	54.309	1.00	37.84	A	C
ATOM	713	NE2	HIS	A	203	-80.823	63.004	53.583	1.00	37.84	A	N
ATOM	714	N	PRO	A	204	-79.238	65.537	49.586	1.00	38.77	A	N
ATOM	715	CA	PRO	A	204	-80.032	64.926	48.564	1.00	38.77	A	C
ATOM	716	C	PRO	A	204	-79.121	64.386	47.518	1.00	38.77	A	C
ATOM	717	O	PRO	A	204	-79.576	63.620	46.671	1.00	38.77	A	O
ATOM	718	CB	PRO	A	204	-80.984	66.011	48.070	1.00	38.77	A	C
ATOM	719	CG	PRO	A	204	-81.158	66.922	49.298	1.00	38.77	A	C
ATOM	720	CD	PRO	A	204	-79.836	66.775	50.066	1.00	38.77	A	C
ATOM	721	N	ASP	A	205	-77.833	64.776	47.552	1.00	39.11	A	N
ATOM	722	CA	ASP	A	205	-76.955	64.343	46.512	1.00	39.11	A	C
ATOM	723	C	ASP	A	205	-76.415	62.988	46.819	1.00	39.11	A	C

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Figure 10-12

ATOM	724	O	ASP	A	205	-75.387	62.615	46.255	1.00	39.11	A	O
ATOM	725	CB	ASP	A	205	-75.758	65.285	46.301	1.00	39.11	A	C
ATOM	726	CG	ASP	A	205	-76.273	66.560	45.648	1.00	39.11	A	C
ATOM	727	OD1	ASP	A	205	-77.478	66.593	45.282	1.00	39.11	A	O
ATOM	728	OD2	ASP	A	205	-75.464	67.515	45.499	1.00	39.11	A	O
ATOM	729	N	ARG	A	206	-77.114	62.221	47.689	1.00	38.97	A	N
ATOM	730	CA	ARG	A	206	-76.757	60.865	48.021	1.00	38.97	A	C
ATOM	731	C	ARG	A	206	-75.287	60.788	48.256	1.00	38.97	A	C
ATOM	732	O	ARG	A	206	-74.563	60.186	47.466	1.00	38.97	A	O
ATOM	733	CB	ARG	A	206	-77.121	59.857	46.917	1.00	38.97	A	C
ATOM	734	CG	ARG	A	206	-78.623	59.787	46.634	1.00	38.97	A	C
ATOM	735	CD	ARG	A	206	-79.394	58.882	47.597	1.00	38.97	A	C
ATOM	736	NE	ARG	A	206	-80.826	58.922	47.191	1.00	38.97	A	N
ATOM	737	CZ	ARG	A	206	-81.666	57.900	47.528	1.00	38.97	A	C
ATOM	738	NH1	ARG	A	206	-81.188	56.829	48.227	1.00	38.97	A	N
ATOM	739	NH2	ARG	A	206	-82.980	57.948	47.166	1.00	38.97	A	N
ATOM	740	N	ALA	A	207	-74.795	61.430	49.329	1.00	37.60	A	N
ATOM	741	CA	ALA	A	207	-73.377	61.442	49.518	1.00	37.60	A	C
ATOM	742	C	ALA	A	207	-72.885	60.037	49.632	1.00	37.60	A	C
ATOM	743	O	ALA	A	207	-73.334	59.274	50.485	1.00	37.60	A	O
ATOM	744	CB	ALA	A	207	-72.933	62.200	50.782	1.00	37.60	A	C
ATOM	745	N	TYR	A	208	-71.986	59.646	48.706	1.00	38.50	A	N
ATOM	746	CA	TYR	A	208	-71.309	58.390	48.802	1.00	38.50	A	C
ATOM	747	C	TYR	A	208	-69.925	58.615	48.288	1.00	38.50	A	C
ATOM	748	O	TYR	A	208	-69.720	58.714	47.079	1.00	38.50	A	O
ATOM	749	CB	TYR	A	208	-71.935	57.261	47.960	1.00	38.50	A	C
ATOM	750	CG	TYR	A	208	-73.240	56.887	48.580	1.00	38.50	A	C
ATOM	751	CD1	TYR	A	208	-74.391	57.572	48.271	1.00	38.50	A	C
ATOM	752	CD2	TYR	A	208	-73.311	55.844	49.475	1.00	38.50	A	C
ATOM	753	CE1	TYR	A	208	-75.592	57.228	48.842	1.00	38.50	A	C
ATOM	754	CE2	TYR	A	208	-74.510	55.493	50.051	1.00	38.50	A	C
ATOM	755	CZ	TYR	A	208	-75.653	56.186	49.734	1.00	38.50	A	C
ATOM	756	OH	TYR	A	208	-76.885	55.829	50.323	1.00	38.50	A	O
ATOM	757	N	ASN	A	209	-68.921	58.697	49.182	1.00	40.97	A	N
ATOM	758	CA	ASN	A	209	-67.588	58.888	48.695	1.00	40.97	A	C
ATOM	759	C	ASN	A	209	-66.664	58.136	49.590	1.00	40.97	A	C
ATOM	760	O	ASN	A	209	-66.732	58.258	50.810	1.00	40.97	A	O
ATOM	761	CB	ASN	A	209	-67.113	60.352	48.702	1.00	40.97	A	C
ATOM	762	CG	ASN	A	209	-67.835	61.104	47.593	1.00	40.97	A	C
ATOM	763	OD1	ASN	A	209	-68.431	62.154	47.824	1.00	40.97	A	O
ATOM	764	ND2	ASN	A	209	-67.772	60.558	46.348	1.00	40.97	A	N
ATOM	765	N	SER	A	210	-65.752	57.344	48.997	1.00	43.32	A	N
ATOM	766	CA	SER	A	210	-64.813	56.617	49.794	1.00	43.32	A	C
ATOM	767	C	SER	A	210	-63.525	57.366	49.697	1.00	43.32	A	C
ATOM	768	O	SER	A	210	-63.276	58.051	48.706	1.00	43.32	A	O
ATOM	769	CB	SER	A	210	-64.561	55.180	49.303	1.00	43.32	A	C
ATOM	770	OG	SER	A	210	-63.964	55.201	48.015	1.00	43.32	A	O
ATOM	771	N	CYS	A	211	-62.680	57.288	50.745	1.00	46.49	A	N
ATOM	772	CA	CYS	A	211	-61.458	58.037	50.699	1.00	46.49	A	C
ATOM	773	C	CYS	A	211	-60.368	57.095	51.121	1.00	46.49	A	C
ATOM	774	O	CYS	A	211	-60.486	56.413	52.138	1.00	46.49	A	O
ATOM	775	CB	CYS	A	211	-61.491	59.233	51.673	1.00	46.49	A	C
ATOM	776	SG	CYS	A	211	-60.443	60.637	51.185	1.00	46.49	A	S
ATOM	777	N	TYR	A	212	-59.276	57.026	50.332	1.00	44.78	A	N
ATOM	778	CA	TYR	A	212	-58.199	56.107	50.597	1.00	44.78	A	C
ATOM	779	C	TYR	A	212	-56.917	56.882	50.657	1.00	44.78	A	C
ATOM	780	O	TYR	A	212	-56.677	57.765	49.836	1.00	44.78	A	O
ATOM	781	CB	TYR	A	212	-58.074	55.081	49.453	1.00	44.78	A	C
ATOM	782	CG	TYR	A	212	-56.846	54.247	49.587	1.00	44.78	A	C
ATOM	783	CD1	TYR	A	212	-55.653	54.700	49.071	1.00	44.78	A	C
ATOM	784	CD2	TYR	A	212	-56.878	53.021	50.212	1.00	44.78	A	C
ATOM	785	CE1	TYR	A	212	-54.508	53.946	49.172	1.00	44.78	A	C
ATOM	786	CE2	TYR	A	212	-55.735	52.261	50.314	1.00	44.78	A	C
ATOM	787	CZ	TYR	A	212	-54.549	52.722	49.795	1.00	44.78	A	C
ATOM	788	OH	TYR	A	212	-53.376	51.944	49.897	1.00	44.78	A	O
ATOM	789	N	SER	A	213	-56.059	56.577	51.652	1.00	38.20	A	N

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Figure 10-13

ATOM	790	CA	SER	A	213	-54.788	57.237	51.750	1.00	38.20	A	C
ATOM	791	C	SER	A	213	-53.832	56.271	52.371	1.00	38.20	A	C
ATOM	792	O	SER	A	213	-54.217	55.463	53.215	1.00	38.20	A	O
ATOM	793	CB	SER	A	213	-54.816	58.491	52.638	1.00	38.20	A	C
ATOM	794	OG	SER	A	213	-53.527	59.088	52.683	1.00	38.20	A	O
ATOM	795	N	ALA	A	214	-52.547	56.324	51.962	1.00	32.33	A	N
ATOM	796	CA	ALA	A	214	-51.585	55.410	52.508	1.00	32.33	A	C
ATOM	797	C	ALA	A	214	-50.250	56.074	52.477	1.00	32.33	A	C
ATOM	798	O	ALA	A	214	-50.042	57.046	51.752	1.00	32.33	A	O
ATOM	799	CB	ALA	A	214	-51.460	54.104	51.706	1.00	32.33	A	C
ATOM	800	N	GLY	A	215	-49.302	55.561	53.285	1.00	26.56	A	N
ATOM	801	CA	GLY	A	215	-47.991	56.137	53.309	1.00	26.56	A	C
ATOM	802	C	GLY	A	215	-47.102	55.214	54.074	1.00	26.56	A	C
ATOM	803	O	GLY	A	215	-47.553	54.217	54.637	1.00	26.56	A	O
ATOM	804	N	VAL	A	216	-45.794	55.532	54.106	1.00	26.90	A	N
ATOM	805	CA	VAL	A	216	-44.859	54.712	54.815	1.00	26.90	A	C
ATOM	806	C	VAL	A	216	-44.349	55.526	55.958	1.00	26.90	A	C
ATOM	807	O	VAL	A	216	-44.132	56.729	55.825	1.00	26.90	A	O
ATOM	808	CB	VAL	A	216	-43.678	54.312	53.979	1.00	26.90	A	C
ATOM	809	CG1	VAL	A	216	-42.911	55.583	53.581	1.00	26.90	A	C
ATOM	810	CG2	VAL	A	216	-42.836	53.297	54.767	1.00	26.90	A	C
ATOM	811	N	PHE	A	217	-44.173	54.888	57.134	1.00	30.85	A	N
ATOM	812	CA	PHE	A	217	-43.682	55.621	58.262	1.00	30.85	A	C
ATOM	813	C	PHE	A	217	-42.900	54.664	59.101	1.00	30.85	A	C
ATOM	814	O	PHE	A	217	-43.144	53.458	59.079	1.00	30.85	A	O
ATOM	815	CB	PHE	A	217	-44.816	56.201	59.128	1.00	30.85	A	C
ATOM	816	CG	PHE	A	217	-44.228	57.126	60.138	1.00	30.85	A	C
ATOM	817	CD1	PHE	A	217	-43.866	58.402	59.775	1.00	30.85	A	C
ATOM	818	CD2	PHE	A	217	-44.056	56.731	61.445	1.00	30.85	A	C
ATOM	819	CE1	PHE	A	217	-43.328	59.270	60.696	1.00	30.85	A	C
ATOM	820	CE2	PHE	A	217	-43.520	57.595	62.370	1.00	30.85	A	C
ATOM	821	CZ	PHE	A	217	-43.154	58.866	61.997	1.00	30.85	A	C
ATOM	822	N	HIS	A	218	-41.922	55.182	59.869	1.00	33.56	A	N
ATOM	823	CA	HIS	A	218	-41.141	54.318	60.703	1.00	33.56	A	C
ATOM	824	C	HIS	A	218	-41.746	54.390	62.065	1.00	33.56	A	C
ATOM	825	O	HIS	A	218	-41.818	55.465	62.660	1.00	33.56	A	O
ATOM	826	CB	HIS	A	218	-39.670	54.752	60.822	1.00	33.56	A	C
ATOM	827	CG	HIS	A	218	-38.846	53.853	61.695	1.00	33.56	A	C
ATOM	828	ND1	HIS	A	218	-38.255	52.684	61.262	1.00	33.56	A	N
ATOM	829	CD2	HIS	A	218	-38.512	53.972	63.007	1.00	33.56	A	C
ATOM	830	CE1	HIS	A	218	-37.600	52.160	62.326	1.00	33.56	A	C
ATOM	831	NE2	HIS	A	218	-37.726	52.906	63.410	1.00	33.56	A	N
ATOM	832	N	LEU	A	219	-42.212	53.239	62.588	1.00	36.08	A	N
ATOM	833	CA	LEU	A	219	-42.830	53.253	63.881	1.00	36.08	A	C
ATOM	834	C	LEU	A	219	-41.925	52.581	64.861	1.00	36.08	A	C
ATOM	835	O	LEU	A	219	-41.121	51.722	64.503	1.00	36.08	A	O
ATOM	836	CB	LEU	A	219	-44.196	52.544	63.970	1.00	36.08	A	C
ATOM	837	CG	LEU	A	219	-45.280	53.104	63.026	1.00	36.08	A	C
ATOM	838	CD1	LEU	A	219	-45.377	54.634	63.120	1.00	36.08	A	C
ATOM	839	CD2	LEU	A	219	-45.137	52.572	61.594	1.00	36.08	A	C
ATOM	840	N	HIS	A	220	-42.038	52.981	66.143	1.00	34.21	A	N
ATOM	841	CA	HIS	A	220	-41.224	52.411	67.174	1.00	34.21	A	C
ATOM	842	C	HIS	A	220	-42.089	51.476	67.947	1.00	34.21	A	C
ATOM	843	O	HIS	A	220	-43.309	51.632	68.002	1.00	34.21	A	O
ATOM	844	CB	HIS	A	220	-40.682	53.451	68.167	1.00	34.21	A	C
ATOM	845	CG	HIS	A	220	-39.788	54.471	67.525	1.00	34.21	A	C
ATOM	846	ND1	HIS	A	220	-40.247	55.571	66.835	1.00	34.21	A	N
ATOM	847	CD2	HIS	A	220	-38.429	54.545	67.478	1.00	34.21	A	C
ATOM	848	CE1	HIS	A	220	-39.152	56.250	66.406	1.00	34.21	A	C
ATOM	849	NE2	HIS	A	220	-38.027	55.665	66.773	1.00	34.21	A	N
ATOM	850	N	GLN	A	221	-41.467	50.461	68.569	1.00	31.81	A	N
ATOM	851	CA	GLN	A	221	-42.232	49.508	69.309	1.00	31.81	A	C
ATOM	852	C	GLN	A	221	-42.934	50.254	70.393	1.00	31.81	A	C
ATOM	853	O	GLN	A	221	-42.357	51.128	71.038	1.00	31.81	A	O
ATOM	854	CB	GLN	A	221	-41.376	48.421	69.977	1.00	31.81	A	C
ATOM	855	CG	GLN	A	221	-42.189	47.401	70.773	1.00	31.81	A	C

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Figure 10-14

ATOM	856	CD	GLN	A	221	-41.213	46.397	71.370	1.00	31.81	A	C
ATOM	857	OE1	GLN	A	221	-40.001	46.523	71.206	1.00	31.81	A	O
ATOM	858	NE2	GLN	A	221	-41.751	45.374	72.086	1.00	31.81	A	N
ATOM	859	N	GLY	A	222	-44.221	49.916	70.610	1.00	32.05	A	N
ATOM	860	CA	GLY	A	222	-44.987	50.549	71.637	1.00	32.05	A	C
ATOM	861	C	GLY	A	222	-45.904	51.552	71.016	1.00	32.05	A	C
ATOM	862	O	GLY	A	222	-46.872	51.979	71.642	1.00	32.05	A	O
ATOM	863	N	ASP	A	223	-45.642	51.946	69.756	1.00	33.04	A	N
ATOM	864	CA	ASP	A	223	-46.493	52.923	69.143	1.00	33.04	A	C
ATOM	865	C	ASP	A	223	-47.798	52.280	68.796	1.00	33.04	A	C
ATOM	866	O	ASP	A	223	-47.919	51.056	68.783	1.00	33.04	A	O
ATOM	867	CB	ASP	A	223	-45.930	53.556	67.850	1.00	33.04	A	C
ATOM	868	CG	ASP	A	223	-44.827	54.546	68.200	1.00	33.04	A	C
ATOM	869	OD1	ASP	A	223	-44.731	54.936	69.394	1.00	33.04	A	O
ATOM	870	OD2	ASP	A	223	-44.070	54.932	67.270	1.00	33.04	A	O
ATOM	871	N	ILE	A	224	-48.828	53.114	68.535	1.00	35.91	A	N
ATOM	872	CA	ILE	A	224	-50.121	52.620	68.166	1.00	35.91	A	C
ATOM	873	C	ILE	A	224	-50.616	53.474	67.042	1.00	35.91	A	C
ATOM	874	O	ILE	A	224	-50.342	54.671	67.000	1.00	35.91	A	O
ATOM	875	CB	ILE	A	224	-51.144	52.750	69.253	1.00	35.91	A	C
ATOM	876	CG1	ILE	A	224	-50.729	51.943	70.491	1.00	35.91	A	C
ATOM	877	CG2	ILE	A	224	-52.507	52.335	68.673	1.00	35.91	A	C
ATOM	878	CD1	ILE	A	224	-51.552	52.284	71.732	1.00	35.91	A	C
ATOM	879	N	LEU	A	225	-51.350	52.878	66.084	1.00	39.64	A	N
ATOM	880	CA	LEU	A	225	-51.914	53.693	65.051	1.00	39.64	A	C
ATOM	881	C	LEU	A	225	-53.400	53.566	65.142	1.00	39.64	A	C
ATOM	882	O	LEU	A	225	-53.922	52.499	65.468	1.00	39.64	A	O
ATOM	883	CB	LEU	A	225	-51.406	53.400	63.626	1.00	39.64	A	C
ATOM	884	CG	LEU	A	225	-49.932	53.839	63.441	1.00	39.64	A	C
ATOM	885	CD1	LEU	A	225	-49.371	53.574	62.044	1.00	39.64	A	C
ATOM	886	CD2	LEU	A	225	-49.769	55.316	63.786	1.00	39.64	A	C
ATOM	887	N	SER	A	226	-54.118	54.683	64.906	1.00	40.89	A	N
ATOM	888	CA	SER	A	226	-55.550	54.662	64.997	1.00	40.89	A	C
ATOM	889	C	SER	A	226	-56.099	55.498	63.885	1.00	40.89	A	C
ATOM	890	O	SER	A	226	-55.422	56.392	63.381	1.00	40.89	A	O
ATOM	891	CB	SER	A	226	-56.094	55.244	66.314	1.00	40.89	A	C
ATOM	892	OG	SER	A	226	-57.513	55.188	66.329	1.00	40.89	A	O
ATOM	893	N	VAL	A	227	-57.349	55.212	63.461	1.00	43.63	A	N
ATOM	894	CA	VAL	A	227	-57.959	55.991	62.421	1.00	43.63	A	C
ATOM	895	C	VAL	A	227	-59.045	56.813	63.052	1.00	43.63	A	C
ATOM	896	O	VAL	A	227	-59.954	56.288	63.694	1.00	43.63	A	O
ATOM	897	CB	VAL	A	227	-58.556	55.159	61.328	1.00	43.63	A	C
ATOM	898	CG1	VAL	A	227	-59.597	54.214	61.944	1.00	43.63	A	C
ATOM	899	CG2	VAL	A	227	-59.126	56.103	60.257	1.00	43.63	A	C
ATOM	900	N	ILE	A	228	-58.978	58.148	62.874	1.00	47.24	A	N
ATOM	901	CA	ILE	A	228	-59.881	59.038	63.548	1.00	47.24	A	C
ATOM	902	C	ILE	A	228	-60.580	59.930	62.561	1.00	47.24	A	C
ATOM	903	O	ILE	A	228	-59.969	60.425	61.615	1.00	47.24	A	O
ATOM	904	CB	ILE	A	228	-59.120	59.918	64.497	1.00	47.24	A	C
ATOM	905	CG1	ILE	A	228	-58.455	59.075	65.597	1.00	47.24	A	C
ATOM	906	CG2	ILE	A	228	-60.064	60.990	65.034	1.00	47.24	A	C
ATOM	907	CD1	ILE	A	228	-59.456	58.311	66.464	1.00	47.24	A	C
ATOM	908	N	ILE	A	229	-61.900	60.161	62.761	1.00	49.00	A	N
ATOM	909	CA	ILE	A	229	-62.629	61.041	61.883	1.00	49.00	A	C
ATOM	910	C	ILE	A	229	-63.051	62.234	62.677	1.00	49.00	A	C
ATOM	911	O	ILE	A	229	-63.926	62.130	63.537	1.00	49.00	A	O
ATOM	912	CB	ILE	A	229	-63.865	60.423	61.309	1.00	49.00	A	C
ATOM	913	CG1	ILE	A	229	-63.481	59.221	60.437	1.00	49.00	A	C
ATOM	914	CG2	ILE	A	229	-64.647	61.509	60.551	1.00	49.00	A	C
ATOM	915	CD1	ILE	A	229	-64.681	58.375	60.035	1.00	49.00	A	C
ATOM	916	N	PRO	A	230	-62.440	63.367	62.422	1.00	51.49	A	N
ATOM	917	CA	PRO	A	230	-62.810	64.534	63.166	1.00	51.49	A	C
ATOM	918	C	PRO	A	230	-64.189	64.998	62.847	1.00	51.49	A	C
ATOM	919	O	PRO	A	230	-64.349	65.871	61.997	1.00	51.49	A	O
ATOM	920	CB	PRO	A	230	-61.715	65.566	62.910	1.00	51.49	A	C
ATOM	921	CG	PRO	A	230	-60.473	64.697	62.638	1.00	51.49	A	C

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Figure 10-15

ATOM	922	CD	PRO	A	230	-61.037	63.395	62.040	1.00	51.49	A	C
ATOM	923	N	ARG	A	231	-65.196	64.477	63.562	1.00	51.08	A	N
ATOM	924	CA	ARG	A	231	-66.533	64.934	63.357	1.00	51.08	A	C
ATOM	925	C	ARG	A	231	-67.397	64.162	64.292	1.00	51.08	A	C
ATOM	926	O	ARG	A	231	-67.191	62.967	64.497	1.00	51.08	A	O
ATOM	927	CB	ARG	A	231	-67.082	64.720	61.940	1.00	51.08	A	C
ATOM	928	CG	ARG	A	231	-68.470	65.343	61.791	1.00	51.08	A	C
ATOM	929	CD	ARG	A	231	-68.978	65.418	60.355	1.00	51.08	A	C
ATOM	930	NE	ARG	A	231	-70.259	66.178	60.395	1.00	51.08	A	N
ATOM	931	CZ	ARG	A	231	-70.237	67.542	60.371	1.00	51.08	A	C
ATOM	932	NH1	ARG	A	231	-69.045	68.205	60.310	1.00	51.08	A	N
ATOM	933	NH2	ARG	A	231	-71.407	68.245	60.409	1.00	51.08	A	N
ATOM	934	N	ALA	A	232	-68.387	64.832	64.908	1.00	49.08	A	N
ATOM	935	CA	ALA	A	232	-69.245	64.098	65.788	1.00	49.08	A	C
ATOM	936	C	ALA	A	232	-70.211	63.366	64.919	1.00	49.08	A	C
ATOM	937	O	ALA	A	232	-70.731	63.948	63.968	1.00	49.08	A	O
ATOM	938	CB	ALA	A	232	-70.054	64.986	66.748	1.00	49.08	A	C
ATOM	939	N	ARG	A	233	-70.494	62.085	65.253	1.00	50.24	A	N
ATOM	940	CA	ARG	A	233	-71.402	61.279	64.484	1.00	50.24	A	C
ATOM	941	C	ARG	A	233	-71.022	61.403	63.044	1.00	50.24	A	C
ATOM	942	O	ARG	A	233	-71.679	62.107	62.281	1.00	50.24	A	O
ATOM	943	CB	ARG	A	233	-72.868	61.720	64.619	1.00	50.24	A	C
ATOM	944	CG	ARG	A	233	-73.424	61.597	66.038	1.00	50.24	A	C
ATOM	945	CD	ARG	A	233	-74.885	62.039	66.153	1.00	50.24	A	C
ATOM	946	NE	ARG	A	233	-75.294	61.872	67.575	1.00	50.24	A	N
ATOM	947	CZ	ARG	A	233	-76.412	62.505	68.037	1.00	50.24	A	C
ATOM	948	NH1	ARG	A	233	-77.159	63.275	67.193	1.00	50.24	A	N
ATOM	949	NH2	ARG	A	233	-76.779	62.372	69.345	1.00	50.24	A	N
ATOM	950	N	ALA	A	234	-69.930	60.731	62.644	1.00	53.30	A	N
ATOM	951	CA	ALA	A	234	-69.388	60.880	61.326	1.00	53.30	A	C
ATOM	952	C	ALA	A	234	-70.366	60.497	60.250	1.00	53.30	A	C
ATOM	953	O	ALA	A	234	-70.467	61.219	59.261	1.00	53.30	A	O
ATOM	954	CB	ALA	A	234	-68.103	60.066	61.110	1.00	53.30	A	C
ATOM	955	N	LYS	A	235	-71.179	59.430	60.428	1.00	58.84	A	N
ATOM	956	CA	LYS	A	235	-72.008	58.958	59.343	1.00	58.84	A	C
ATOM	957	C	LYS	A	235	-71.159	58.368	58.251	1.00	58.84	A	C
ATOM	958	O	LYS	A	235	-70.944	58.972	57.200	1.00	58.84	A	O
ATOM	959	CB	LYS	A	235	-72.898	60.045	58.714	1.00	58.84	A	C
ATOM	960	CG	LYS	A	235	-74.128	60.402	59.550	1.00	58.84	A	C
ATOM	961	CD	LYS	A	235	-73.804	61.101	60.869	1.00	58.84	A	C
ATOM	962	CE	LYS	A	235	-75.042	61.451	61.697	1.00	58.84	A	C
ATOM	963	NZ	LYS	A	235	-75.606	60.225	62.303	1.00	58.84	A	N
ATOM	964	N	LEU	A	236	-70.625	57.153	58.530	1.00	63.52	A	N
ATOM	965	CA	LEU	A	236	-69.779	56.382	57.650	1.00	63.52	A	C
ATOM	966	C	LEU	A	236	-70.521	55.142	57.209	1.00	63.52	A	C
ATOM	967	O	LEU	A	236	-71.707	54.967	57.481	1.00	63.52	A	O
ATOM	968	CB	LEU	A	236	-68.549	55.760	58.323	1.00	63.52	A	C
ATOM	969	CG	LEU	A	236	-67.649	56.709	59.111	1.00	63.52	A	C
ATOM	970	CD1	LEU	A	236	-68.382	57.239	60.350	1.00	63.52	A	C
ATOM	971	CD2	LEU	A	236	-66.327	56.009	59.456	1.00	63.52	A	C
ATOM	972	N	ASN	A	237	-69.820	54.284	56.427	1.00	65.59	A	N
ATOM	973	CA	ASN	A	237	-70.289	53.030	55.874	1.00	65.59	A	C
ATOM	974	C	ASN	A	237	-70.314	51.847	56.820	1.00	65.59	A	C
ATOM	975	O	ASN	A	237	-71.312	51.135	56.912	1.00	65.59	A	O
ATOM	976	CB	ASN	A	237	-69.439	52.611	54.660	1.00	65.59	A	C
ATOM	977	CG	ASN	A	237	-70.166	51.510	53.903	1.00	65.59	A	C
ATOM	978	OD1	ASN	A	237	-69.599	50.886	53.006	1.00	65.59	A	O
ATOM	979	ND2	ASN	A	237	-71.456	51.268	54.256	1.00	65.59	A	N
ATOM	980	N	LEU	A	238	-69.199	51.580	57.527	1.00	66.15	A	N
ATOM	981	CA	LEU	A	238	-69.065	50.430	58.388	1.00	66.15	A	C
ATOM	982	C	LEU	A	238	-69.165	49.164	57.586	1.00	66.15	A	C
ATOM	983	O	LEU	A	238	-69.289	48.076	58.148	1.00	66.15	A	O
ATOM	984	CB	LEU	A	238	-70.068	50.386	59.550	1.00	66.15	A	C
ATOM	985	CG	LEU	A	238	-69.921	51.628	60.440	1.00	66.15	A	C
ATOM	986	CD1	LEU	A	238	-70.497	51.407	61.847	1.00	66.15	A	C
ATOM	987	CD2	LEU	A	238	-68.478	52.148	60.405	1.00	66.15	A	C

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Figure 10-16

ATOM	988	N	SER	A	239	-69.078	49.258	56.244	1.00	64.73	A	N
ATOM	989	CA	SER	A	239	-69.123	48.055	55.456	1.00	64.73	A	C
ATOM	990	C	SER	A	239	-67.730	47.510	55.404	1.00	64.73	A	C
ATOM	991	O	SER	A	239	-66.780	48.187	55.011	1.00	64.73	A	O
ATOM	992	CB	SER	A	239	-69.591	48.271	54.005	1.00	64.73	A	C
ATOM	993	OG	SER	A	239	-70.966	48.624	53.974	1.00	64.73	A	O
ATOM	994	N	PRO	A	240	-67.630	46.257	55.761	1.00	68.26	A	N
ATOM	995	CA	PRO	A	240	-66.368	45.581	55.900	1.00	68.26	A	C
ATOM	996	C	PRO	A	240	-65.516	45.774	54.696	1.00	68.26	A	C
ATOM	997	O	PRO	A	240	-64.292	45.821	54.834	1.00	68.26	A	O
ATOM	998	CB	PRO	A	240	-66.717	44.107	56.094	1.00	68.26	A	C
ATOM	999	CG	PRO	A	240	-68.041	43.955	55.326	1.00	68.26	A	C
ATOM	1000	CD	PRO	A	240	-68.715	45.326	55.491	1.00	68.26	A	C
ATOM	1001	N	HIS	A	241	-66.140	45.848	53.511	1.00	72.12	A	N
ATOM	1002	CA	HIS	A	241	-65.394	46.066	52.312	1.00	72.12	A	C
ATOM	1003	C	HIS	A	241	-65.649	47.491	51.968	1.00	72.12	A	C
ATOM	1004	O	HIS	A	241	-66.671	47.807	51.367	1.00	72.12	A	O
ATOM	1005	CB	HIS	A	241	-65.918	45.273	51.100	1.00	72.12	A	C
ATOM	1006	CG	HIS	A	241	-65.935	43.785	51.286	1.00	72.12	A	C
ATOM	1007	ND1	HIS	A	241	-66.973	43.096	51.875	1.00	72.12	A	N
ATOM	1008	CD2	HIS	A	241	-65.018	42.845	50.930	1.00	72.12	A	C
ATOM	1009	CE1	HIS	A	241	-66.634	41.782	51.846	1.00	72.12	A	C
ATOM	1010	NE2	HIS	A	241	-65.457	41.581	51.282	1.00	72.12	A	N
ATOM	1011	N	GLY	A	242	-64.705	48.388	52.278	1.00	75.74	A	N
ATOM	1012	CA	GLY	A	242	-64.941	49.766	51.984	1.00	75.74	A	C
ATOM	1013	C	GLY	A	242	-64.409	50.594	53.106	1.00	75.74	A	C
ATOM	1014	O	GLY	A	242	-63.864	51.669	52.858	1.00	75.74	A	O
ATOM	1015	N	THR	A	243	-64.541	50.159	54.373	1.00	77.20	A	N
ATOM	1016	CA	THR	A	243	-63.875	50.980	55.338	1.00	77.20	A	C
ATOM	1017	C	THR	A	243	-62.978	50.136	56.188	1.00	77.20	A	C
ATOM	1018	O	THR	A	243	-63.399	49.520	57.157	1.00	77.20	A	O
ATOM	1019	CB	THR	A	243	-64.780	51.875	56.141	1.00	77.20	A	C
ATOM	1020	OG1	THR	A	243	-63.999	52.807	56.869	1.00	77.20	A	O
ATOM	1021	CG2	THR	A	243	-65.659	51.063	57.087	1.00	77.20	A	C
ATOM	1022	N	PHE	A	244	-61.675	50.103	55.855	1.00	71.63	A	N
ATOM	1023	CA	PHE	A	244	-60.762	49.240	56.551	1.00	71.63	A	C
ATOM	1024	C	PHE	A	244	-59.497	49.984	56.858	1.00	71.63	A	C
ATOM	1025	O	PHE	A	244	-59.299	51.104	56.394	1.00	71.63	A	O
ATOM	1026	CB	PHE	A	244	-60.414	48.005	55.711	1.00	71.63	A	C
ATOM	1027	CG	PHE	A	244	-60.023	48.541	54.377	1.00	71.63	A	C
ATOM	1028	CD1	PHE	A	244	-58.732	48.931	54.111	1.00	71.63	A	C
ATOM	1029	CD2	PHE	A	244	-60.972	48.672	53.388	1.00	71.63	A	C
ATOM	1030	CE1	PHE	A	244	-58.394	49.433	52.876	1.00	71.63	A	C
ATOM	1031	CE2	PHE	A	244	-60.640	49.172	52.152	1.00	71.63	A	C
ATOM	1032	CZ	PHE	A	244	-59.345	49.550	51.891	1.00	71.63	A	C
ATOM	1033	N	LEU	A	245	-58.623	49.382	57.699	1.00	65.02	A	N
ATOM	1034	CA	LEU	A	245	-57.386	50.024	58.072	1.00	65.02	A	C
ATOM	1035	C	LEU	A	245	-56.378	48.928	58.155	1.00	65.02	A	C
ATOM	1036	O	LEU	A	245	-56.706	47.825	58.593	1.00	65.02	A	O
ATOM	1037	CB	LEU	A	245	-57.306	50.600	59.491	1.00	65.02	A	C
ATOM	1038	CG	LEU	A	245	-58.637	51.107	60.001	1.00	65.02	A	C
ATOM	1039	CD1	LEU	A	245	-59.305	52.123	59.058	1.00	65.02	A	C
ATOM	1040	CD2	LEU	A	245	-59.456	49.863	60.320	1.00	65.02	A	C
ATOM	1041	N	GLY	A	246	-55.111	49.193	57.773	1.00	55.28	A	N
ATOM	1042	CA	GLY	A	246	-54.188	48.101	57.880	1.00	55.28	A	C
ATOM	1043	C	GLY	A	246	-52.765	48.568	57.809	1.00	55.28	A	C
ATOM	1044	O	GLY	A	246	-52.479	49.683	57.374	1.00	55.28	A	O
ATOM	1045	N	PHE	A	247	-51.837	47.684	58.255	1.00	47.05	A	N
ATOM	1046	CA	PHE	A	247	-50.423	47.943	58.215	1.00	47.05	A	C
ATOM	1047	C	PHE	A	247	-49.753	46.756	57.618	1.00	47.05	A	C
ATOM	1048	O	PHE	A	247	-50.110	45.614	57.909	1.00	47.05	A	O
ATOM	1049	CB	PHE	A	247	-49.633	47.902	59.529	1.00	47.05	A	C
ATOM	1050	CG	PHE	A	247	-50.033	48.961	60.454	1.00	47.05	A	C
ATOM	1051	CD1	PHE	A	247	-50.209	50.226	59.975	1.00	47.05	A	C
ATOM	1052	CD2	PHE	A	247	-50.132	48.690	61.798	1.00	47.05	A	C
ATOM	1053	CE1	PHE	A	247	-50.564	51.207	60.849	1.00	47.05	A	C

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Figure 10-17

ATOM 1054	CE2	PHE	A	247	-50.482	49.687	62.670	1.00	47.05	A	C
ATOM 1055	CZ	PHE	A	247	-50.706	50.945	62.186	1.00	47.05	A	C
ATOM 1056	N	VAL	A	248	-48.709	47.018	56.814	1.00	40.65	A	N
ATOM 1057	CA	VAL	A	248	-47.886	45.964	56.318	1.00	40.65	A	C
ATOM 1058	C	VAL	A	248	-46.503	46.341	56.720	1.00	40.65	A	C
ATOM 1059	O	VAL	A	248	-46.102	47.497	56.591	1.00	40.65	A	O
ATOM 1060	CB	VAL	A	248	-47.902	45.816	54.827	1.00	40.65	A	C
ATOM 1061	CG1	VAL	A	248	-47.460	47.146	54.204	1.00	40.65	A	C
ATOM 1062	CG2	VAL	A	248	-46.986	44.641	54.445	1.00	40.65	A	C
ATOM 1063	N	LYS	A	249	-45.738	45.364	57.235	1.00	34.46	A	N
ATOM 1064	CA	LYS	A	249	-44.410	45.659	57.673	1.00	34.46	A	C
ATOM 1065	C	LYS	A	249	-43.516	45.433	56.504	1.00	34.46	A	C
ATOM 1066	O	LYS	A	249	-43.521	44.361	55.900	1.00	34.46	A	O
ATOM 1067	CB	LYS	A	249	-43.978	44.749	58.837	1.00	34.46	A	C
ATOM 1068	CG	LYS	A	249	-42.653	45.114	59.507	1.00	34.46	A	C
ATOM 1069	CD	LYS	A	249	-42.516	44.489	60.900	1.00	34.46	A	C
ATOM 1070	CE	LYS	A	249	-43.297	43.180	61.059	1.00	34.46	A	C
ATOM 1071	NZ	LYS	A	249	-43.174	42.658	62.437	1.00	34.46	A	N
ATOM 1072	N	LEU	A	250	-42.727	46.462	56.142	1.00	29.77	A	N
ATOM 1073	CA	LEU	A	250	-41.867	46.345	55.005	1.00	29.77	A	C
ATOM 1074	C	LEU	A	250	-40.700	45.438	55.373	1.00	29.77	A	C
ATOM 1075	1OCT	LEU	A	250	-39.930	45.797	56.303	1.00	29.77	A	O
ATOM 1076	CB	LEU	A	250	-41.296	47.693	54.537	1.00	29.77	A	C
ATOM 1077	CG	LEU	A	250	-42.377	48.651	54.005	1.00	29.77	A	C
ATOM 1078	CD1	LEU	A	250	-41.770	49.984	53.546	1.00	29.77	A	C
ATOM 1079	CD2	LEU	A	250	-43.229	47.982	52.915	1.00	29.77	A	C
ATOM 1080	2OCT	LEU	A	250	-40.568	44.371	54.716	1.00	29.77	A	O
ATOM 1081	N	GLN	B	114	-37.938	37.877	45.030	1.00	54.74	B	N
ATOM 1082	CA	GLN	B	114	-38.565	38.715	44.064	1.00	54.74	B	C
ATOM 1083	C	GLN	B	114	-40.017	38.463	44.229	1.00	54.74	B	C
ATOM 1084	O	GLN	B	114	-40.500	37.373	43.934	1.00	54.74	B	O
ATOM 1085	CB	GLN	B	114	-38.199	38.375	42.609	1.00	54.74	B	C
ATOM 1086	CG	GLN	B	114	-36.722	38.592	42.276	1.00	54.74	B	C
ATOM 1087	CD	GLN	B	114	-36.515	38.210	40.817	1.00	54.74	B	C
ATOM 1088	OE1	GLN	B	114	-37.454	37.811	40.131	1.00	54.74	B	O
ATOM 1089	NE2	GLN	B	114	-35.253	38.335	40.328	1.00	54.74	B	N
ATOM 1090	N	HIS	B	115	-40.756	39.460	44.743	1.00	53.85	B	N
ATOM 1091	CA	HIS	B	115	-42.156	39.251	44.927	1.00	53.85	B	C
ATOM 1092	C	HIS	B	115	-42.772	39.257	43.570	1.00	53.85	B	C
ATOM 1093	O	HIS	B	115	-42.484	40.131	42.755	1.00	53.85	B	O
ATOM 1094	CB	HIS	B	115	-42.835	40.352	45.759	1.00	53.85	B	C
ATOM 1095	CG	HIS	B	115	-42.651	41.718	45.168	1.00	53.85	B	C
ATOM 1096	ND1	HIS	B	115	-43.404	42.221	44.130	1.00	53.85	B	N
ATOM 1097	CD2	HIS	B	115	-41.764	42.699	45.491	1.00	53.85	B	C
ATOM 1098	CE1	HIS	B	115	-42.937	43.470	43.878	1.00	53.85	B	C
ATOM 1099	NE2	HIS	B	115	-41.943	43.803	44.679	1.00	53.85	B	N
ATOM 1100	N	SER	B	116	-43.644	38.269	43.292	1.00	49.07	B	N
ATOM 1101	CA	SER	B	116	-44.262	38.210	42.001	1.00	49.07	B	C
ATOM 1102	C	SER	B	116	-45.332	39.249	41.973	1.00	49.07	B	C
ATOM 1103	O	SER	B	116	-45.861	39.633	43.016	1.00	49.07	B	O
ATOM 1104	CB	SER	B	116	-44.938	36.861	41.700	1.00	49.07	B	C
ATOM 1105	OG	SER	B	116	-43.969	35.825	41.656	1.00	49.07	B	O
ATOM 1106	N	VAL	B	117	-45.654	39.757	40.767	1.00	46.78	B	N
ATOM 1107	CA	VAL	B	117	-46.690	40.741	40.645	1.00	46.78	B	C
ATOM 1108	C	VAL	B	117	-47.186	40.696	39.232	1.00	46.78	B	C
ATOM 1109	O	VAL	B	117	-46.451	40.329	38.316	1.00	46.78	B	O
ATOM 1110	CB	VAL	B	117	-46.209	42.148	40.865	1.00	46.78	B	C
ATOM 1111	CG1	VAL	B	117	-45.652	42.275	42.291	1.00	46.78	B	C
ATOM 1112	CG2	VAL	B	117	-45.192	42.491	39.763	1.00	46.78	B	C
ATOM 1113	N	LEU	B	118	-48.465	41.063	39.024	1.00	46.47	B	N
ATOM 1114	CA	LEU	B	118	-49.022	41.088	37.701	1.00	46.47	B	C
ATOM 1115	C	LEU	B	118	-49.920	42.286	37.654	1.00	46.47	B	C
ATOM 1116	O	LEU	B	118	-50.627	42.575	38.619	1.00	46.47	B	O
ATOM 1117	CB	LEU	B	118	-49.844	39.815	37.393	1.00	46.47	B	C
ATOM 1118	CG	LEU	B	118	-50.418	39.675	35.963	1.00	46.47	B	C
ATOM 1119	CD1	LEU	B	118	-51.077	38.297	35.784	1.00	46.47	B	C

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Figure 10-18

ATOM 1120	CD2	LEU	B	118	-51.397	40.800	35.593	1.00	46.47	B	C
ATOM 1121	N	HIS	B	119	-49.906	43.040	36.535	1.00	47.74	B	N
ATOM 1122	CA	HIS	B	119	-50.772	44.182	36.484	1.00	47.74	B	C
ATOM 1123	C	HIS	B	119	-51.453	44.261	35.152	1.00	47.74	B	C
ATOM 1124	O	HIS	B	119	-50.888	43.904	34.119	1.00	47.74	B	O
ATOM 1125	CB	HIS	B	119	-50.066	45.513	36.805	1.00	47.74	B	C
ATOM 1126	CG	HIS	B	119	-48.647	45.572	36.328	1.00	47.74	B	C
ATOM 1127	ND1	HIS	B	119	-47.590	44.987	36.988	1.00	47.74	B	N
ATOM 1128	CD2	HIS	B	119	-48.111	46.168	35.231	1.00	47.74	B	C
ATOM 1129	CE1	HIS	B	119	-46.476	45.256	36.260	1.00	47.74	B	C
ATOM 1130	NE2	HIS	B	119	-46.743	45.971	35.183	1.00	47.74	B	N
ATOM 1131	N	LEU	B	120	-52.723	44.721	35.173	1.00	49.98	B	N
ATOM 1132	CA	LEU	B	120	-53.537	44.852	33.995	1.00	49.98	B	C
ATOM 1133	C	LEU	B	120	-53.826	46.305	33.778	1.00	49.98	B	C
ATOM 1134	O	LEU	B	120	-53.915	47.083	34.727	1.00	49.98	B	O
ATOM 1135	CB	LEU	B	120	-54.901	44.140	34.089	1.00	49.98	B	C
ATOM 1136	CG	LEU	B	120	-54.801	42.602	34.109	1.00	49.98	B	C
ATOM 1137	CD1	LEU	B	120	-54.029	42.113	35.340	1.00	49.98	B	C
ATOM 1138	CD2	LEU	B	120	-56.180	41.939	33.989	1.00	49.98	B	C
ATOM 1139	N	VAL	B	121	-53.983	46.691	32.494	1.00	49.34	B	N
ATOM 1140	CA	VAL	B	121	-54.186	48.046	32.053	1.00	49.34	B	C
ATOM 1141	C	VAL	B	121	-55.378	48.003	31.120	1.00	49.34	B	C
ATOM 1142	O	VAL	B	121	-55.494	47.075	30.324	1.00	49.34	B	O
ATOM 1143	CB	VAL	B	121	-52.930	48.465	31.312	1.00	49.34	B	C
ATOM 1144	CG1	VAL	B	121	-52.974	49.900	30.768	1.00	49.34	B	C
ATOM 1145	CG2	VAL	B	121	-51.756	48.219	32.276	1.00	49.34	B	C
ATOM 1146	N	PRO	B	122	-56.277	48.955	31.180	1.00	47.62	B	N
ATOM 1147	CA	PRO	B	122	-57.462	48.908	30.368	1.00	47.62	B	C
ATOM 1148	C	PRO	B	122	-57.082	48.911	28.927	1.00	47.62	B	C
ATOM 1149	O	PRO	B	122	-56.067	49.513	28.578	1.00	47.62	B	O
ATOM 1150	CB	PRO	B	122	-58.209	50.181	30.661	1.00	47.62	B	C
ATOM 1151	CG	PRO	B	122	-57.053	51.174	30.831	1.00	47.62	B	C
ATOM 1152	CD	PRO	B	122	-55.878	50.324	31.348	1.00	47.62	B	C
ATOM 1153	N	ILE	B	123	-57.904	48.265	28.078	1.00	42.63	B	N
ATOM 1154	CA	ILE	B	123	-57.619	48.243	26.677	1.00	42.63	B	C
ATOM 1155	C	ILE	B	123	-58.545	49.209	25.997	1.00	42.63	B	C
ATOM 1156	O	ILE	B	123	-59.751	48.998	25.886	1.00	42.63	B	O
ATOM 1157	CB	ILE	B	123	-57.761	46.876	26.056	1.00	42.63	B	C
ATOM 1158	CG1	ILE	B	123	-57.325	46.918	24.583	1.00	42.63	B	C
ATOM 1159	CG2	ILE	B	123	-59.188	46.351	26.289	1.00	42.63	B	C
ATOM 1160	CD1	ILE	B	123	-55.833	47.194	24.403	1.00	42.63	B	C
ATOM 1161	N	ASN	B	124	-57.963	50.315	25.506	1.00	35.86	B	N
ATOM 1162	CA	ASN	B	124	-58.688	51.362	24.848	1.00	35.86	B	C
ATOM 1163	C	ASN	B	124	-59.251	50.809	23.577	1.00	35.86	B	C
ATOM 1164	O	ASN	B	124	-60.274	51.272	23.076	1.00	35.86	B	O
ATOM 1165	CB	ASN	B	124	-57.786	52.560	24.500	1.00	35.86	B	C
ATOM 1166	CG	ASN	B	124	-58.647	53.709	23.988	1.00	35.86	B	C
ATOM 1167	OD1	ASN	B	124	-59.297	53.609	22.949	1.00	35.86	B	O
ATOM 1168	ND2	ASN	B	124	-58.645	54.845	24.737	1.00	35.86	B	N
ATOM 1169	N	ALA	B	125	-58.561	49.802	23.016	1.00	31.82	B	N
ATOM 1170	CA	ALA	B	125	-58.915	49.215	21.758	1.00	31.82	B	C
ATOM 1171	C	ALA	B	125	-60.271	48.572	21.797	1.00	31.82	B	C
ATOM 1172	O	ALA	B	125	-61.031	48.700	20.838	1.00	31.82	B	O
ATOM 1173	CB	ALA	B	125	-57.912	48.137	21.312	1.00	31.82	B	C
ATOM 1174	N	THR	B	126	-60.640	47.878	22.895	1.00	29.76	B	N
ATOM 1175	CA	THR	B	126	-61.871	47.140	22.815	1.00	29.76	B	C
ATOM 1176	C	THR	B	126	-62.928	47.769	23.673	1.00	29.76	B	C
ATOM 1177	O	THR	B	126	-62.640	48.496	24.622	1.00	29.76	B	O
ATOM 1178	CB	THR	B	126	-61.724	45.706	23.236	1.00	29.76	B	C
ATOM 1179	OG1	THR	B	126	-60.676	45.094	22.498	1.00	29.76	B	O
ATOM 1180	CG2	THR	B	126	-63.039	44.972	22.926	1.00	29.76	B	C
ATOM 1181	N	SER	B	127	-64.206	47.503	23.323	1.00	31.01	B	N
ATOM 1182	CA	SER	B	127	-65.333	48.040	24.028	1.00	31.01	B	C
ATOM 1183	C	SER	B	127	-65.464	47.330	25.336	1.00	31.01	B	C
ATOM 1184	O	SER	B	127	-64.906	46.253	25.538	1.00	31.01	B	O
ATOM 1185	CB	SER	B	127	-66.664	47.875	23.275	1.00	31.01	B	C

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Figure 10-19

ATOM 1186	OG	SER B 127	-66.974	46.497	23.135	1.00	31.01	B	O
ATOM 1187	N	LYS B 128	-66.227	47.943	26.262	1.00	36.69	B	N
ATOM 1188	CA	LYS B 128	-66.407	47.434	27.589	1.00	36.69	B	C
ATOM 1189	C	LYS B 128	-67.237	46.193	27.514	1.00	36.69	B	C
ATOM 1190	O	LYS B 128	-68.126	46.079	26.671	1.00	36.69	B	O
ATOM 1191	CB	LYS B 128	-67.135	48.428	28.503	1.00	36.69	B	C
ATOM 1192	CG	LYS B 128	-67.007	48.105	29.987	1.00	36.69	B	C
ATOM 1193	CD	LYS B 128	-65.589	48.300	30.509	1.00	36.69	B	C
ATOM 1194	CE	LYS B 128	-64.803	49.347	29.724	1.00	36.69	B	C
ATOM 1195	NZ	LYS B 128	-65.437	50.676	29.874	1.00	36.69	B	N
ATOM 1196	N	ASP B 129	-66.946	45.217	28.399	1.00	40.37	B	N
ATOM 1197	CA	ASP B 129	-67.672	43.981	28.400	1.00	40.37	B	C
ATOM 1198	C	ASP B 129	-68.979	44.213	29.076	1.00	40.37	B	C
ATOM 1199	O	ASP B 129	-69.042	44.809	30.152	1.00	40.37	B	O
ATOM 1200	CB	ASP B 129	-66.946	42.845	29.142	1.00	40.37	B	C
ATOM 1201	CG	ASP B 129	-67.635	41.527	28.808	1.00	40.37	B	C
ATOM 1202	OD1	ASP B 129	-68.649	41.558	28.062	1.00	40.37	B	O
ATOM 1203	OD2	ASP B 129	-67.152	40.470	29.295	1.00	40.37	B	O
ATOM 1204	N	ASP B 130	-70.063	43.732	28.443	1.00	44.03	B	N
ATOM 1205	CA	ASP B 130	-71.375	43.944	28.961	1.00	44.03	B	C
ATOM 1206	C	ASP B 130	-71.913	42.653	29.491	1.00	44.03	B	C
ATOM 1207	O	ASP B 130	-71.933	41.624	28.820	1.00	44.03	B	O
ATOM 1208	CB	ASP B 130	-72.355	44.465	27.890	1.00	44.03	B	C
ATOM 1209	CG	ASP B 130	-73.659	44.901	28.546	1.00	44.03	B	C
ATOM 1210	OD1	ASP B 130	-74.236	44.101	29.329	1.00	44.03	B	O
ATOM 1211	OD2	ASP B 130	-74.094	46.052	28.272	1.00	44.03	B	O
ATOM 1212	N	SER B 131	-72.339	42.722	30.762	1.00	47.28	B	N
ATOM 1213	CA	SER B 131	-73.012	41.724	31.535	1.00	47.28	B	C
ATOM 1214	C	SER B 131	-73.979	42.610	32.247	1.00	47.28	B	C
ATOM 1215	O	SER B 131	-74.115	43.759	31.841	1.00	47.28	B	O
ATOM 1216	CB	SER B 131	-72.131	41.060	32.605	1.00	47.28	B	C
ATOM 1217	OG	SER B 131	-72.881	40.087	33.318	1.00	47.28	B	O
ATOM 1218	N	ASP B 132	-74.691	42.152	33.289	1.00	45.71	B	N
ATOM 1219	CA	ASP B 132	-75.546	43.093	33.961	1.00	45.71	B	C
ATOM 1220	C	ASP B 132	-74.617	44.119	34.506	1.00	45.71	B	C
ATOM 1221	O	ASP B 132	-74.920	45.310	34.600	1.00	45.71	B	O
ATOM 1222	CB	ASP B 132	-76.310	42.476	35.145	1.00	45.71	B	C
ATOM 1223	CG	ASP B 132	-77.283	43.521	35.676	1.00	45.71	B	C
ATOM 1224	OD1	ASP B 132	-77.318	44.645	35.107	1.00	45.71	B	O
ATOM 1225	OD2	ASP B 132	-78.009	43.207	36.656	1.00	45.71	B	O
ATOM 1226	N	VAL B 133	-73.419	43.646	34.865	1.00	46.63	B	N
ATOM 1227	CA	VAL B 133	-72.415	44.498	35.390	1.00	46.63	B	C
ATOM 1228	C	VAL B 133	-71.538	44.822	34.220	1.00	46.63	B	C
ATOM 1229	O	VAL B 133	-71.741	44.298	33.126	1.00	46.63	B	O
ATOM 1230	CB	VAL B 133	-71.617	43.816	36.453	1.00	46.63	B	C
ATOM 1231	CG1	VAL B 133	-70.393	43.131	35.819	1.00	46.63	B	C
ATOM 1232	CG2	VAL B 133	-71.377	44.815	37.586	1.00	46.63	B	C
ATOM 1233	N	THR B 134	-70.584	45.752	34.392	1.00	47.14	B	N
ATOM 1234	CA	THR B 134	-69.750	46.114	33.284	1.00	47.14	B	C
ATOM 1235	C	THR B 134	-68.326	45.839	33.662	1.00	47.14	B	C
ATOM 1236	O	THR B 134	-67.873	46.230	34.737	1.00	47.14	B	O
ATOM 1237	CB	THR B 134	-69.878	47.569	32.945	1.00	47.14	B	C
ATOM 1238	OG1	THR B 134	-69.085	47.886	31.814	1.00	47.14	B	O
ATOM 1239	CG2	THR B 134	-69.447	48.404	34.159	1.00	47.14	B	C
ATOM 1240	N	GLU B 135	-67.579	45.161	32.766	1.00	48.66	B	N
ATOM 1241	CA	GLU B 135	-66.223	44.775	33.039	1.00	48.66	B	C
ATOM 1242	C	GLU B 135	-65.349	45.448	32.028	1.00	48.66	B	C
ATOM 1243	O	GLU B 135	-65.730	45.578	30.866	1.00	48.66	B	O
ATOM 1244	CB	GLU B 135	-66.042	43.259	32.868	1.00	48.66	B	C
ATOM 1245	CG	GLU B 135	-66.858	42.444	33.877	1.00	48.66	B	C
ATOM 1246	CD	GLU B 135	-66.767	40.972	33.498	1.00	48.66	B	C
ATOM 1247	OE1	GLU B 135	-66.060	40.658	32.503	1.00	48.66	B	O
ATOM 1248	OE2	GLU B 135	-67.406	40.143	34.198	1.00	48.66	B	O
ATOM 1249	N	VAL B 136	-64.141	45.906	32.422	1.00	53.13	B	N
ATOM 1250	CA	VAL B 136	-63.382	46.571	31.398	1.00	53.13	B	C
ATOM 1251	C	VAL B 136	-62.455	45.566	30.802	1.00	53.13	B	C

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Figure 10-20

ATOM 1252	O	VAL	B	136	-62.023	44.633	31.476	1.00	53.13	B	O
ATOM 1253	CB	VAL	B	136	-62.529	47.727	31.817	1.00	53.13	B	C
ATOM 1254	CG1	VAL	B	136	-63.312	48.637	32.777	1.00	53.13	B	C
ATOM 1255	CG2	VAL	B	136	-61.181	47.189	32.269	1.00	53.13	B	C
ATOM 1256	N	MET	B	137	-62.123	45.723	29.506	1.00	54.30	B	N
ATOM 1257	CA	MET	B	137	-61.238	44.769	28.914	1.00	54.30	B	C
ATOM 1258	C	MET	B	137	-59.846	45.076	29.333	1.00	54.30	B	C
ATOM 1259	O	MET	B	137	-59.398	46.224	29.311	1.00	54.30	B	O
ATOM 1260	CB	MET	B	137	-61.325	44.641	27.387	1.00	54.30	B	C
ATOM 1261	CG	MET	B	137	-62.612	43.929	26.975	1.00	54.30	B	C
ATOM 1262	SD	MET	B	137	-62.562	43.148	25.339	1.00	54.30	B	S
ATOM 1263	CE	MET	B	137	-61.402	41.839	25.830	1.00	54.30	B	C
ATOM 1264	N	TRP	B	138	-59.120	44.015	29.731	1.00	53.49	B	N
ATOM 1265	CA	TRP	B	138	-57.824	44.230	30.287	1.00	53.49	B	C
ATOM 1266	C	TRP	B	138	-56.780	43.762	29.333	1.00	53.49	B	C
ATOM 1267	O	TRP	B	138	-56.990	42.829	28.558	1.00	53.49	B	O
ATOM 1268	CB	TRP	B	138	-57.635	43.483	31.609	1.00	53.49	B	C
ATOM 1269	CG	TRP	B	138	-58.631	43.907	32.660	1.00	53.49	B	C
ATOM 1270	CD1	TRP	B	138	-59.574	43.169	33.314	1.00	53.49	B	C
ATOM 1271	CD2	TRP	B	138	-58.742	45.244	33.168	1.00	53.49	B	C
ATOM 1272	NE1	TRP	B	138	-60.238	43.955	34.228	1.00	53.49	B	N
ATOM 1273	CE2	TRP	B	138	-59.737	45.238	34.147	1.00	53.49	B	C
ATOM 1274	CE3	TRP	B	138	-58.049	46.384	32.865	1.00	53.49	B	C
ATOM 1275	CZ2	TRP	B	138	-60.043	46.374	34.850	1.00	53.49	B	C
ATOM 1276	CZ3	TRP	B	138	-58.379	47.531	33.561	1.00	53.49	B	C
ATOM 1277	CH2	TRP	B	138	-59.353	47.528	34.540	1.00	53.49	B	C
ATOM 1278	N	GLN	B	139	-55.624	44.454	29.352	1.00	49.24	B	N
ATOM 1279	CA	GLN	B	139	-54.503	44.083	28.540	1.00	49.24	B	C
ATOM 1280	C	GLN	B	139	-53.356	43.939	29.492	1.00	49.24	B	C
ATOM 1281	O	GLN	B	139	-53.116	44.817	30.319	1.00	49.24	B	O
ATOM 1282	CB	GLN	B	139	-54.119	45.157	27.507	1.00	49.24	B	C
ATOM 1283	CG	GLN	B	139	-53.002	44.724	26.558	1.00	49.24	B	C
ATOM 1284	CD	GLN	B	139	-53.599	43.750	25.552	1.00	49.24	B	C
ATOM 1285	OE1	GLN	B	139	-54.728	43.924	25.096	1.00	49.24	B	O
ATOM 1286	NE2	GLN	B	139	-52.823	42.690	25.196	1.00	49.24	B	N
ATOM 1287	N	PRO	B	140	-52.657	42.839	29.427	1.00	43.32	B	N
ATOM 1288	CA	PRO	B	140	-51.574	42.581	30.339	1.00	43.32	B	C
ATOM 1289	C	PRO	B	140	-50.532	43.654	30.296	1.00	43.32	B	C
ATOM 1290	O	PRO	B	140	-49.837	43.753	29.284	1.00	43.32	B	O
ATOM 1291	CB	PRO	B	140	-50.986	41.249	29.889	1.00	43.32	B	C
ATOM 1292	CG	PRO	B	140	-51.234	41.267	28.366	1.00	43.32	B	C
ATOM 1293	CD	PRO	B	140	-52.550	42.052	28.211	1.00	43.32	B	C
ATOM 1294	N	ALA	B	141	-50.385	44.452	31.373	1.00	38.30	B	N
ATOM 1295	CA	ALA	B	141	-49.329	45.419	31.383	1.00	38.30	B	C
ATOM 1296	C	ALA	B	141	-48.033	44.686	31.491	1.00	38.30	B	C
ATOM 1297	O	ALA	B	141	-47.113	44.913	30.708	1.00	38.30	B	O
ATOM 1298	CB	ALA	B	141	-49.417	46.394	32.561	1.00	38.30	B	C
ATOM 1299	N	LEU	B	142	-47.952	43.754	32.462	1.00	34.74	B	N
ATOM 1300	CA	LEU	B	142	-46.760	42.980	32.667	1.00	34.74	B	C
ATOM 1301	C	LEU	B	142	-47.076	41.877	33.623	1.00	34.74	B	C
ATOM 1302	O	LEU	B	142	-47.966	41.999	34.464	1.00	34.74	B	O
ATOM 1303	CB	LEU	B	142	-45.586	43.757	33.289	1.00	34.74	B	C
ATOM 1304	CG	LEU	B	142	-44.932	44.803	32.370	1.00	34.74	B	C
ATOM 1305	CD1	LEU	B	142	-43.774	45.520	33.087	1.00	34.74	B	C
ATOM 1306	CD2	LEU	B	142	-44.491	44.180	31.035	1.00	34.74	B	C
ATOM 1307	N	ARG	B	143	-46.344	40.753	33.502	1.00	32.75	B	N
ATOM 1308	CA	ARG	B	143	-46.512	39.645	34.396	1.00	32.75	B	C
ATOM 1309	C	ARG	B	143	-45.144	39.257	34.856	1.00	32.75	B	C
ATOM 1310	O	ARG	B	143	-44.239	39.096	34.041	1.00	32.75	B	O
ATOM 1311	CB	ARG	B	143	-47.132	38.416	33.705	1.00	32.75	B	C
ATOM 1312	CG	ARG	B	143	-47.312	37.187	34.598	1.00	32.75	B	C
ATOM 1313	CD	ARG	B	143	-47.937	36.002	33.856	1.00	32.75	B	C
ATOM 1314	NE	ARG	B	143	-47.996	34.848	34.796	1.00	32.75	B	N
ATOM 1315	CZ	ARG	B	143	-46.978	33.939	34.821	1.00	32.75	B	C
ATOM 1316	NH1	ARG	B	143	-45.909	34.090	33.986	1.00	32.75	B	N
ATOM 1317	NH2	ARG	B	143	-47.030	32.878	35.678	1.00	32.75	B	N

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Figure 10-21

ATOM 1318	N	ARG	B	144	-44.942	39.119	36.182	1.00	32.80	B	N
ATOM 1319	CA	ARG	B	144	-43.639	38.712	36.618	1.00	32.80	B	C
ATOM 1320	C	ARG	B	144	-43.795	37.708	37.717	1.00	32.80	B	C
ATOM 1321	O	ARG	B	144	-44.446	37.971	38.727	1.00	32.80	B	O
ATOM 1322	CB	ARG	B	144	-42.784	39.864	37.171	1.00	32.80	B	C
ATOM 1323	CG	ARG	B	144	-41.378	39.428	37.587	1.00	32.80	B	C
ATOM 1324	CD	ARG	B	144	-40.525	40.567	38.147	1.00	32.80	B	C
ATOM 1325	NE	ARG	B	144	-41.105	40.938	39.467	1.00	32.80	B	N
ATOM 1326	CZ	ARG	B	144	-40.455	41.826	40.275	1.00	32.80	B	C
ATOM 1327	NH1	ARG	B	144	-39.272	42.376	39.873	1.00	32.80	B	N
ATOM 1328	NH2	ARG	B	144	-40.990	42.162	41.484	1.00	32.80	B	N
ATOM 1329	N	GLY	B	145	-43.163	36.528	37.556	1.00	35.33	B	N
ATOM 1330	CA	GLY	B	145	-43.227	35.525	38.580	1.00	35.33	B	C
ATOM 1331	C	GLY	B	145	-44.232	34.481	38.199	1.00	35.33	B	C
ATOM 1332	O	GLY	B	145	-45.033	34.673	37.286	1.00	35.33	B	O
ATOM 1333	N	ARG	B	146	-44.151	33.312	38.876	1.00	39.72	B	N
ATOM 1334	CA	ARG	B	146	-45.001	32.172	38.660	1.00	39.72	B	C
ATOM 1335	C	ARG	B	146	-46.414	32.405	39.104	1.00	39.72	B	C
ATOM 1336	O	ARG	B	146	-47.355	32.160	38.352	1.00	39.72	B	O
ATOM 1337	CB	ARG	B	146	-44.505	30.922	39.407	1.00	39.72	B	C
ATOM 1338	CG	ARG	B	146	-44.432	31.115	40.923	1.00	39.72	B	C
ATOM 1339	CD	ARG	B	146	-43.938	29.879	41.677	1.00	39.72	B	C
ATOM 1340	NE	ARG	B	146	-43.903	30.221	43.127	1.00	39.72	B	N
ATOM 1341	CZ	ARG	B	146	-42.780	30.776	43.668	1.00	39.72	B	C
ATOM 1342	NH1	ARG	B	146	-41.690	31.018	42.881	1.00	39.72	B	N
ATOM 1343	NH2	ARG	B	146	-42.746	31.090	44.996	1.00	39.72	B	N
ATOM 1344	N	GLY	B	147	-46.611	32.911	40.335	1.00	44.41	B	N
ATOM 1345	CA	GLY	B	147	-47.949	33.075	40.818	1.00	44.41	B	C
ATOM 1346	C	GLY	B	147	-48.538	34.207	40.047	1.00	44.41	B	C
ATOM 1347	O	GLY	B	147	-47.803	35.000	39.462	1.00	44.41	B	O
ATOM 1348	N	LEU	B	148	-49.874	34.372	40.129	1.00	47.49	B	N
ATOM 1349	CA	LEU	B	148	-50.540	35.431	39.420	1.00	47.49	B	C
ATOM 1350	C	LEU	B	148	-50.273	35.424	37.942	1.00	47.49	B	C
ATOM 1351	O	LEU	B	148	-49.181	35.737	37.473	1.00	47.49	B	O
ATOM 1352	CB	LEU	B	148	-50.103	36.831	39.884	1.00	47.49	B	C
ATOM 1353	CG	LEU	B	148	-50.254	37.098	41.388	1.00	47.49	B	C
ATOM 1354	CD1	LEU	B	148	-49.317	36.196	42.204	1.00	47.49	B	C
ATOM 1355	CD2	LEU	B	148	-50.046	38.586	41.706	1.00	47.49	B	C
ATOM 1356	N	GLN	B	149	-51.279	34.956	37.172	1.00	46.88	B	N
ATOM 1357	CA	GLN	B	149	-51.221	34.997	35.738	1.00	46.88	B	C
ATOM 1358	C	GLN	B	149	-52.586	35.433	35.282	1.00	46.88	B	C
ATOM 1359	O	GLN	B	149	-53.552	35.333	36.037	1.00	46.88	B	O
ATOM 1360	CB	GLN	B	149	-50.910	33.617	35.141	1.00	46.88	B	C
ATOM 1361	CG	GLN	B	149	-50.593	33.634	33.650	1.00	46.88	B	C
ATOM 1362	CD	GLN	B	149	-50.183	32.221	33.266	1.00	46.88	B	C
ATOM 1363	OE1	GLN	B	149	-50.102	31.339	34.118	1.00	46.88	B	O
ATOM 1364	NE2	GLN	B	149	-49.913	32.001	31.951	1.00	46.88	B	N
ATOM 1365	N	ALA	B	150	-52.710	35.960	34.045	1.00	45.60	B	N
ATOM 1366	CA	ALA	B	150	-54.000	36.412	33.598	1.00	45.60	B	C
ATOM 1367	C	ALA	B	150	-54.764	35.239	33.078	1.00	45.60	B	C
ATOM 1368	O	ALA	B	150	-54.268	34.460	32.265	1.00	45.60	B	O
ATOM 1369	CB	ALA	B	150	-53.932	37.464	32.477	1.00	45.60	B	C
ATOM 1370	N	GLN	B	151	-56.026	35.107	33.528	1.00	44.75	B	N
ATOM 1371	CA	GLN	B	151	-56.862	34.022	33.113	1.00	44.75	B	C
ATOM 1372	C	GLN	B	151	-57.753	34.579	32.059	1.00	44.75	B	C
ATOM 1373	O	GLN	B	151	-57.284	35.003	31.004	1.00	44.75	B	O
ATOM 1374	CB	GLN	B	151	-57.744	33.456	34.239	1.00	44.75	B	C
ATOM 1375	CG	GLN	B	151	-58.554	32.233	33.804	1.00	44.75	B	C
ATOM 1376	CD	GLN	B	151	-59.377	31.757	34.991	1.00	44.75	B	C
ATOM 1377	OE1	GLN	B	151	-60.557	31.439	34.851	1.00	44.75	B	O
ATOM 1378	NE2	GLN	B	151	-58.740	31.690	36.190	1.00	44.75	B	N
ATOM 1379	N	GLY	B	152	-59.076	34.565	32.293	1.00	44.25	B	N
ATOM 1380	CA	GLY	B	152	-59.915	35.133	31.287	1.00	44.25	B	C
ATOM 1381	C	GLY	B	152	-60.382	36.457	31.790	1.00	44.25	B	C
ATOM 1382	O	GLY	B	152	-61.419	36.551	32.446	1.00	44.25	B	O
ATOM 1383	N	TYR	B	153	-59.636	37.531	31.455	1.00	46.47	B	N

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Figure 10-22

ATOM 1384	CA	TYR	B	153	-60.046	38.845	31.859	1.00	46.47	B	C
ATOM 1385	C	TYR	B	153	-59.875	39.022	33.356	1.00	46.47	B	C
ATOM 1386	O	TYR	B	153	-60.104	40.098	33.912	1.00	46.47	B	O
ATOM 1387	CB	TYR	B	153	-61.521	39.076	31.392	1.00	46.47	B	C
ATOM 1388	CG	TYR	B	153	-62.196	40.100	32.232	1.00	46.47	B	C
ATOM 1389	CD1	TYR	B	153	-62.061	41.449	32.003	1.00	46.47	B	C
ATOM 1390	CD2	TYR	B	153	-62.940	39.671	33.307	1.00	46.47	B	C
ATOM 1391	CE1	TYR	B	153	-62.683	42.349	32.838	1.00	46.47	B	C
ATOM 1392	CE2	TYR	B	153	-63.561	40.565	34.141	1.00	46.47	B	C
ATOM 1393	CZ	TYR	B	153	-63.431	41.910	33.904	1.00	46.47	B	C
ATOM 1394	OH	TYR	B	153	-64.062	42.832	34.762	1.00	46.47	B	O
ATOM 1395	N	GLY	B	154	-59.346	38.011	34.064	1.00	48.14	B	N
ATOM 1396	CA	GLY	B	154	-59.248	38.202	35.484	1.00	48.14	B	C
ATOM 1397	C	GLY	B	154	-57.910	37.714	35.936	1.00	48.14	B	C
ATOM 1398	O	GLY	B	154	-57.210	37.021	35.198	1.00	48.14	B	O
ATOM 1399	N	VAL	B	155	-57.510	38.056	37.182	1.00	50.13	B	N
ATOM 1400	CA	VAL	B	155	-56.214	37.600	37.581	1.00	50.13	B	C
ATOM 1401	C	VAL	B	155	-56.393	36.312	38.322	1.00	50.13	B	C
ATOM 1402	O	VAL	B	155	-57.260	36.190	39.190	1.00	50.13	B	O
ATOM 1403	CB	VAL	B	155	-55.445	38.540	38.457	1.00	50.13	B	C
ATOM 1404	CG1	VAL	B	155	-54.097	37.859	38.763	1.00	50.13	B	C
ATOM 1405	CG2	VAL	B	155	-55.315	39.903	37.752	1.00	50.13	B	C
ATOM 1406	N	ARG	B	156	-55.561	35.307	37.988	1.00	52.84	B	N
ATOM 1407	CA	ARG	B	156	-55.694	34.020	38.607	1.00	52.84	B	C
ATOM 1408	C	ARG	B	156	-54.551	33.830	39.551	1.00	52.84	B	C
ATOM 1409	O	ARG	B	156	-53.400	34.082	39.197	1.00	52.84	B	O
ATOM 1410	CB	ARG	B	156	-55.633	32.849	37.608	1.00	52.84	B	C
ATOM 1411	CG	ARG	B	156	-54.309	32.771	36.847	1.00	52.84	B	C
ATOM 1412	CD	ARG	B	156	-54.184	31.549	35.935	1.00	52.84	B	C
ATOM 1413	NE	ARG	B	156	-55.012	31.798	34.722	1.00	52.84	B	N
ATOM 1414	CZ	ARG	B	156	-54.849	31.012	33.617	1.00	52.84	B	C
ATOM 1415	NH1	ARG	B	156	-53.930	30.003	33.626	1.00	52.84	B	N
ATOM 1416	NH2	ARG	B	156	-55.603	31.237	32.501	1.00	52.84	B	N
ATOM 1417	N	ILE	B	157	-54.823	33.362	40.790	1.00	52.18	B	N
ATOM 1418	CA	ILE	B	157	-53.690	33.168	41.647	1.00	52.18	B	C
ATOM 1419	C	ILE	B	157	-53.260	31.739	41.654	1.00	52.18	B	C
ATOM 1420	O	ILE	B	157	-54.034	30.821	41.912	1.00	52.18	B	O
ATOM 1421	CB	ILE	B	157	-53.748	33.718	43.053	1.00	52.18	B	C
ATOM 1422	CG1	ILE	B	157	-54.937	33.197	43.861	1.00	52.18	B	C
ATOM 1423	CG2	ILE	B	157	-53.718	35.250	42.941	1.00	52.18	B	C
ATOM 1424	CD1	ILE	B	157	-56.226	33.895	43.458	1.00	52.18	B	C
ATOM 1425	N	GLN	B	158	-51.994	31.549	41.227	1.00	47.14	B	N
ATOM 1426	CA	GLN	B	158	-51.284	30.306	41.126	1.00	47.14	B	C
ATOM 1427	C	GLN	B	158	-50.820	29.792	42.457	1.00	47.14	B	C
ATOM 1428	O	GLN	B	158	-50.804	28.584	42.683	1.00	47.14	B	O
ATOM 1429	CB	GLN	B	158	-50.037	30.423	40.234	1.00	47.14	B	C
ATOM 1430	CG	GLN	B	158	-50.354	30.730	38.769	1.00	47.14	B	C
ATOM 1431	CD	GLN	B	158	-50.931	29.470	38.141	1.00	47.14	B	C
ATOM 1432	OE1	GLN	B	158	-51.376	29.479	36.994	1.00	47.14	B	O
ATOM 1433	NE2	GLN	B	158	-50.922	28.350	38.914	1.00	47.14	B	N
ATOM 1434	N	ASP	B	159	-50.373	30.687	43.362	1.00	40.20	B	N
ATOM 1435	CA	ASP	B	159	-49.846	30.211	44.612	1.00	40.20	B	C
ATOM 1436	C	ASP	B	159	-50.521	30.930	45.737	1.00	40.20	B	C
ATOM 1437	O	ASP	B	159	-50.539	32.158	45.786	1.00	40.20	B	O
ATOM 1438	CB	ASP	B	159	-48.328	30.418	44.747	1.00	40.20	B	C
ATOM 1439	CG	ASP	B	159	-48.041	31.907	44.683	1.00	40.20	B	C
ATOM 1440	OD1	ASP	B	159	-48.629	32.593	43.802	1.00	40.20	B	O
ATOM 1441	OD2	ASP	B	159	-47.226	32.376	45.522	1.00	40.20	B	O
ATOM 1442	N	ALA	B	160	-51.086	30.167	46.693	1.00	33.14	B	N
ATOM 1443	CA	ALA	B	160	-51.784	30.778	47.787	1.00	33.14	B	C
ATOM 1444	C	ALA	B	160	-50.795	31.564	48.587	1.00	33.14	B	C
ATOM 1445	O	ALA	B	160	-49.635	31.176	48.717	1.00	33.14	B	O
ATOM 1446	CB	ALA	B	160	-52.454	29.768	48.735	1.00	33.14	B	C
ATOM 1447	N	GLY	B	161	-51.241	32.711	49.141	1.00	29.02	B	N
ATOM 1448	CA	GLY	B	161	-50.359	33.536	49.913	1.00	29.02	B	C
ATOM 1449	C	GLY	B	161	-51.049	34.843	50.161	1.00	29.02	B	C

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Figure 10-23

ATOM 1450	O	GLY B 161	-52.254	34.970	49.956	1.00	29.02	B	O
ATOM 1451	N	VAL B 162	-50.283	35.856	50.617	1.00	31.57	B	N
ATOM 1452	CA	VAL B 162	-50.846	37.143	50.916	1.00	31.57	B	C
ATOM 1453	C	VAL B 162	-50.592	38.041	49.747	1.00	31.57	B	C
ATOM 1454	O	VAL B 162	-49.505	38.036	49.173	1.00	31.57	B	O
ATOM 1455	CB	VAL B 162	-50.222	37.791	52.114	1.00	31.57	B	C
ATOM 1456	CG1	VAL B 162	-48.729	38.006	51.818	1.00	31.57	B	C
ATOM 1457	CG2	VAL B 162	-50.986	39.090	52.424	1.00	31.57	B	C
ATOM 1458	N	TYR B 163	-51.611	38.832	49.352	1.00	36.28	B	N
ATOM 1459	CA	TYR B 163	-51.452	39.685	48.211	1.00	36.28	B	C
ATOM 1460	C	TYR B 163	-51.936	41.069	48.504	1.00	36.28	B	C
ATOM 1461	O	TYR B 163	-52.909	41.272	49.230	1.00	36.28	B	O
ATOM 1462	CB	TYR B 163	-52.275	39.237	46.995	1.00	36.28	B	C
ATOM 1463	CG	TYR B 163	-51.684	37.984	46.468	1.00	36.28	B	C
ATOM 1464	CD1	TYR B 163	-51.966	36.764	47.040	1.00	36.28	B	C
ATOM 1465	CD2	TYR B 163	-50.844	38.045	45.386	1.00	36.28	B	C
ATOM 1466	CE1	TYR B 163	-51.411	35.612	46.534	1.00	36.28	B	C
ATOM 1467	CE2	TYR B 163	-50.291	36.900	44.882	1.00	36.28	B	C
ATOM 1468	CZ	TYR B 163	-50.567	35.684	45.452	1.00	36.28	B	C
ATOM 1469	OH	TYR B 163	-49.985	34.520	44.914	1.00	36.28	B	O
ATOM 1470	N	LEU B 164	-51.238	42.066	47.924	1.00	39.72	B	N
ATOM 1471	CA	LEU B 164	-51.690	43.423	47.983	1.00	39.72	B	C
ATOM 1472	C	LEU B 164	-52.401	43.608	46.681	1.00	39.72	B	C
ATOM 1473	O	LEU B 164	-51.822	43.408	45.615	1.00	39.72	B	O
ATOM 1474	CB	LEU B 164	-50.550	44.456	48.062	1.00	39.72	B	C
ATOM 1475	CG	LEU B 164	-51.015	45.925	48.092	1.00	39.72	B	C
ATOM 1476	CD1	LEU B 164	-51.825	46.236	49.360	1.00	39.72	B	C
ATOM 1477	CD2	LEU B 164	-49.832	46.887	47.883	1.00	39.72	B	C
ATOM 1478	N	LEU B 165	-53.695	43.966	46.748	1.00	44.09	B	N
ATOM 1479	CA	LEU B 165	-54.527	44.085	45.585	1.00	44.09	B	C
ATOM 1480	C	LEU B 165	-54.992	45.497	45.443	1.00	44.09	B	C
ATOM 1481	O	LEU B 165	-55.480	46.094	46.401	1.00	44.09	B	O
ATOM 1482	CB	LEU B 165	-55.779	43.203	45.730	1.00	44.09	B	C
ATOM 1483	CG	LEU B 165	-56.922	43.482	44.741	1.00	44.09	B	C
ATOM 1484	CD1	LEU B 165	-56.483	43.394	43.273	1.00	44.09	B	C
ATOM 1485	CD2	LEU B 165	-58.121	42.579	45.077	1.00	44.09	B	C
ATOM 1486	N	TYR B 166	-54.831	46.085	44.238	1.00	45.50	B	N
ATOM 1487	CA	TYR B 166	-55.358	47.404	44.042	1.00	45.50	B	C
ATOM 1488	C	TYR B 166	-55.978	47.535	42.685	1.00	45.50	B	C
ATOM 1489	O	TYR B 166	-55.612	46.835	41.742	1.00	45.50	B	O
ATOM 1490	CB	TYR B 166	-54.372	48.565	44.304	1.00	45.50	B	C
ATOM 1491	CG	TYR B 166	-53.086	48.380	43.574	1.00	45.50	B	C
ATOM 1492	CD1	TYR B 166	-52.095	47.602	44.128	1.00	45.50	B	C
ATOM 1493	CD2	TYR B 166	-52.855	48.996	42.366	1.00	45.50	B	C
ATOM 1494	CE1	TYR B 166	-50.897	47.426	43.481	1.00	45.50	B	C
ATOM 1495	CE2	TYR B 166	-51.657	48.824	41.714	1.00	45.50	B	C
ATOM 1496	CZ	TYR B 166	-50.676	48.037	42.271	1.00	45.50	B	C
ATOM 1497	OH	TYR B 166	-49.446	47.860	41.604	1.00	45.50	B	O
ATOM 1498	N	SER B 167	-56.989	48.426	42.577	1.00	46.49	B	N
ATOM 1499	CA	SER B 167	-57.651	48.632	41.318	1.00	46.49	B	C
ATOM 1500	C	SER B 167	-58.149	50.042	41.257	1.00	46.49	B	C
ATOM 1501	O	SER B 167	-58.624	50.591	42.251	1.00	46.49	B	O
ATOM 1502	CB	SER B 167	-58.873	47.721	41.109	1.00	46.49	B	C
ATOM 1503	OG	SER B 167	-59.887	48.044	42.050	1.00	46.49	B	O
ATOM 1504	N	GLN B 168	-58.061	50.658	40.060	1.00	49.22	B	N
ATOM 1505	CA	GLN B 168	-58.504	52.012	39.905	1.00	49.22	B	C
ATOM 1506	C	GLN B 168	-59.168	52.137	38.569	1.00	49.22	B	C
ATOM 1507	O	GLN B 168	-58.745	51.523	37.589	1.00	49.22	B	O
ATOM 1508	CB	GLN B 168	-57.341	53.012	39.941	1.00	49.22	B	C
ATOM 1509	CG	GLN B 168	-57.747	54.477	39.788	1.00	49.22	B	C
ATOM 1510	CD	GLN B 168	-56.462	55.288	39.848	1.00	49.22	B	C
ATOM 1511	OE1	GLN B 168	-55.625	55.192	38.956	1.00	49.22	B	O
ATOM 1512	NE2	GLN B 168	-56.287	56.093	40.931	1.00	49.22	B	N
ATOM 1513	N	VAL B 169	-60.249	52.940	38.506	1.00	51.74	B	N
ATOM 1514	CA	VAL B 169	-60.949	53.147	37.271	1.00	51.74	B	C
ATOM 1515	C	VAL B 169	-61.395	54.575	37.228	1.00	51.74	B	C

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Figure 10-24

ATOM 1516	O	VAL	B	169	-61.778	55.147	38.247	1.00	51.74	B	O
ATOM 1517	CB	VAL	B	169	-62.161	52.274	37.157	1.00	51.74	B	C
ATOM 1518	CG1	VAL	B	169	-62.940	52.387	38.475	1.00	51.74	B	C
ATOM 1519	CG2	VAL	B	169	-62.978	52.712	35.928	1.00	51.74	B	C
ATOM 1520	N	LEU	B	170	-61.361	55.189	36.028	1.00	56.37	B	N
ATOM 1521	CA	LEU	B	170	-61.743	56.566	35.903	1.00	56.37	B	C
ATOM 1522	C	LEU	B	170	-63.172	56.580	35.451	1.00	56.37	B	C
ATOM 1523	O	LEU	B	170	-63.496	56.095	34.368	1.00	56.37	B	O
ATOM 1524	CB	LEU	B	170	-60.889	57.315	34.859	1.00	56.37	B	C
ATOM 1525	CG	LEU	B	170	-61.095	58.843	34.797	1.00	56.37	B	C
ATOM 1526	CD1	LEU	B	170	-62.507	59.224	34.334	1.00	56.37	B	C
ATOM 1527	CD2	LEU	B	170	-60.692	59.513	36.120	1.00	56.37	B	C
ATOM 1528	N	PHE	B	171	-64.069	57.157	36.275	1.00	60.65	B	N
ATOM 1529	CA	PHE	B	171	-65.463	57.155	35.937	1.00	60.65	B	C
ATOM 1530	C	PHE	B	171	-65.809	58.436	35.235	1.00	60.65	B	C
ATOM 1531	O	PHE	B	171	-65.624	59.527	35.773	1.00	60.65	B	O
ATOM 1532	CB	PHE	B	171	-66.389	57.041	37.159	1.00	60.65	B	C
ATOM 1533	CG	PHE	B	171	-66.149	55.713	37.791	1.00	60.65	B	C
ATOM 1534	CD1	PHE	B	171	-66.672	54.570	37.232	1.00	60.65	B	C
ATOM 1535	CD2	PHE	B	171	-65.413	55.613	38.948	1.00	60.65	B	C
ATOM 1536	CE1	PHE	B	171	-66.455	53.343	37.814	1.00	60.65	B	C
ATOM 1537	CE2	PHE	B	171	-65.193	54.390	39.536	1.00	60.65	B	C
ATOM 1538	CZ	PHE	B	171	-65.716	53.253	38.968	1.00	60.65	B	C
ATOM 1539	N	GLN	B	172	-66.211	58.307	33.953	1.00	67.06	B	N
ATOM 1540	CA	GLN	B	172	-66.705	59.351	33.091	1.00	67.06	B	C
ATOM 1541	C	GLN	B	172	-68.180	59.576	33.268	1.00	67.06	B	C
ATOM 1542	O	GLN	B	172	-68.711	60.567	32.779	1.00	67.06	B	O
ATOM 1543	CB	GLN	B	172	-66.427	59.126	31.590	1.00	67.06	B	C
ATOM 1544	CG	GLN	B	172	-67.195	57.976	30.946	1.00	67.06	B	C
ATOM 1545	CD	GLN	B	172	-66.796	57.909	29.479	1.00	67.06	B	C
ATOM 1546	OE1	GLN	B	172	-65.745	58.411	29.084	1.00	67.06	B	O
ATOM 1547	NE2	GLN	B	172	-67.659	57.268	28.645	1.00	67.06	B	N
ATOM 1548	N	ASP	B	173	-68.893	58.597	33.861	1.00	71.27	B	N
ATOM 1549	CA	ASP	B	173	-70.332	58.571	33.990	1.00	71.27	B	C
ATOM 1550	C	ASP	B	173	-70.840	59.677	34.884	1.00	71.27	B	C
ATOM 1551	O	ASP	B	173	-70.212	60.057	35.871	1.00	71.27	B	O
ATOM 1552	CB	ASP	B	173	-70.811	57.221	34.570	1.00	71.27	B	C
ATOM 1553	CG	ASP	B	173	-72.289	56.968	34.291	1.00	71.27	B	C
ATOM 1554	OD1	ASP	B	173	-73.122	57.891	34.481	1.00	71.27	B	O
ATOM 1555	OD2	ASP	B	173	-72.608	55.816	33.896	1.00	71.27	B	O
ATOM 1556	N	VAL	B	174	-72.000	60.245	34.485	1.00	71.57	B	N
ATOM 1557	CA	VAL	B	174	-72.782	61.294	35.090	1.00	71.57	B	C
ATOM 1558	C	VAL	B	174	-73.563	60.833	36.296	1.00	71.57	B	C
ATOM 1559	O	VAL	B	174	-73.940	61.653	37.131	1.00	71.57	B	O
ATOM 1560	CB	VAL	B	174	-73.758	61.871	34.108	1.00	71.57	B	C
ATOM 1561	CG1	VAL	B	174	-74.651	62.910	34.804	1.00	71.57	B	C
ATOM 1562	CG2	VAL	B	174	-72.951	62.433	32.928	1.00	71.57	B	C
ATOM 1563	N	THR	B	175	-73.863	59.521	36.395	1.00	70.41	B	N
ATOM 1564	CA	THR	B	175	-74.713	58.933	37.402	1.00	70.41	B	C
ATOM 1565	C	THR	B	175	-74.357	59.483	38.744	1.00	70.41	B	C
ATOM 1566	O	THR	B	175	-73.233	59.922	38.976	1.00	70.41	B	O
ATOM 1567	CB	THR	B	175	-74.514	57.453	37.521	1.00	70.41	B	C
ATOM 1568	OG1	THR	B	175	-74.659	56.828	36.262	1.00	70.41	B	O
ATOM 1569	CG2	THR	B	175	-75.573	56.892	38.472	1.00	70.41	B	C
ATOM 1570	N	PHE	B	176	-75.321	59.433	39.685	1.00	61.11	B	N
ATOM 1571	CA	PHE	B	176	-75.123	60.020	40.972	1.00	61.11	B	C
ATOM 1572	C	PHE	B	176	-73.896	59.434	41.590	1.00	61.11	B	C
ATOM 1573	O	PHE	B	176	-73.067	60.173	42.119	1.00	61.11	B	O
ATOM 1574	CB	PHE	B	176	-76.321	59.817	41.917	1.00	61.11	B	C
ATOM 1575	CG	PHE	B	176	-76.586	58.358	42.053	1.00	61.11	B	C
ATOM 1576	CD1	PHE	B	176	-77.360	57.701	41.125	1.00	61.11	B	C
ATOM 1577	CD2	PHE	B	176	-76.066	57.649	43.109	1.00	61.11	B	C
ATOM 1578	CE1	PHE	B	176	-77.613	56.355	41.246	1.00	61.11	B	C
ATOM 1579	CE2	PHE	B	176	-76.317	56.302	43.235	1.00	61.11	B	C
ATOM 1580	CZ	PHE	B	176	-77.090	55.652	42.304	1.00	61.11	B	C
ATOM 1581	N	THR	B	177	-73.725	58.100	41.549	1.00	51.28	B	N

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Figure 10-25

ATOM 1582	CA	THR	B	177	-72.509	57.585	42.111	1.00	51.28	B	C
ATOM 1583	C	THR	B	177	-72.005	56.468	41.253	1.00	51.28	B	C
ATOM 1584	O	THR	B	177	-72.778	55.765	40.604	1.00	51.28	B	O
ATOM 1585	CB	THR	B	177	-72.668	57.027	43.494	1.00	51.28	B	C
ATOM 1586	OG1	THR	B	177	-71.393	56.805	44.080	1.00	51.28	B	O
ATOM 1587	CG2	THR	B	177	-73.437	55.700	43.402	1.00	51.28	B	C
ATOM 1588	N	MET	B	178	-70.670	56.279	41.239	1.00	42.34	B	N
ATOM 1589	CA	MET	B	178	-70.085	55.219	40.466	1.00	42.34	B	C
ATOM 1590	C	MET	B	178	-69.042	54.570	41.323	1.00	42.34	B	C
ATOM 1591	O	MET	B	178	-68.633	55.127	42.339	1.00	42.34	B	O
ATOM 1592	CB	MET	B	178	-69.396	55.704	39.178	1.00	42.34	B	C
ATOM 1593	CG	MET	B	178	-70.372	56.276	38.147	1.00	42.34	B	C
ATOM 1594	SD	MET	B	178	-71.527	55.059	37.447	1.00	42.34	B	S
ATOM 1595	CE	MET	B	178	-70.311	54.291	36.340	1.00	42.34	B	C
ATOM 1596	N	GLY	B	179	-68.601	53.349	40.952	1.00	35.34	B	N
ATOM 1597	CA	GLY	B	179	-67.600	52.689	41.742	1.00	35.34	B	C
ATOM 1598	C	GLY	B	179	-67.404	51.302	41.217	1.00	35.34	B	C
ATOM 1599	O	GLY	B	179	-68.130	50.846	40.334	1.00	35.34	B	O
ATOM 1600	N	GLN	B	180	-66.399	50.585	41.766	1.00	34.51	B	N
ATOM 1601	CA	GLN	B	180	-66.125	49.261	41.290	1.00	34.51	B	C
ATOM 1602	C	GLN	B	180	-65.895	48.361	42.457	1.00	34.51	B	C
ATOM 1603	O	GLN	B	180	-65.685	48.808	43.584	1.00	34.51	B	O
ATOM 1604	CB	GLN	B	180	-64.874	49.197	40.398	1.00	34.51	B	C
ATOM 1605	CG	GLN	B	180	-63.585	49.572	41.131	1.00	34.51	B	C
ATOM 1606	CD	GLN	B	180	-62.449	49.574	40.119	1.00	34.51	B	C
ATOM 1607	OE1	GLN	B	180	-61.284	49.757	40.470	1.00	34.51	B	O
ATOM 1608	NE2	GLN	B	180	-62.795	49.368	38.820	1.00	34.51	B	N
ATOM 1609	N	VAL	B	181	-65.963	47.040	42.207	1.00	37.80	B	N
ATOM 1610	CA	VAL	B	181	-65.733	46.105	43.263	1.00	37.80	B	C
ATOM 1611	C	VAL	B	181	-64.602	45.226	42.849	1.00	37.80	B	C
ATOM 1612	O	VAL	B	181	-64.559	44.733	41.721	1.00	37.80	B	O
ATOM 1613	CB	VAL	B	181	-66.912	45.218	43.538	1.00	37.80	B	C
ATOM 1614	CG1	VAL	B	181	-68.079	46.094	44.024	1.00	37.80	B	C
ATOM 1615	CG2	VAL	B	181	-67.231	44.413	42.266	1.00	37.80	B	C
ATOM 1616	N	VAL	B	182	-63.622	45.037	43.751	1.00	42.17	B	N
ATOM 1617	CA	VAL	B	182	-62.601	44.092	43.433	1.00	42.17	B	C
ATOM 1618	C	VAL	B	182	-63.053	42.858	44.139	1.00	42.17	B	C
ATOM 1619	O	VAL	B	182	-63.133	42.809	45.366	1.00	42.17	B	O
ATOM 1620	CB	VAL	B	182	-61.212	44.496	43.852	1.00	42.17	B	C
ATOM 1621	CG1	VAL	B	182	-61.116	44.650	45.381	1.00	42.17	B	C
ATOM 1622	CG2	VAL	B	182	-60.244	43.472	43.242	1.00	42.17	B	C
ATOM 1623	N	SER	B	183	-63.392	41.812	43.367	1.00	45.27	B	N
ATOM 1624	CA	SER	B	183	-63.994	40.679	44.004	1.00	45.27	B	C
ATOM 1625	C	SER	B	183	-63.137	39.471	43.848	1.00	45.27	B	C
ATOM 1626	O	SER	B	183	-62.236	39.424	43.011	1.00	45.27	B	O
ATOM 1627	CB	SER	B	183	-65.381	40.331	43.434	1.00	45.27	B	C
ATOM 1628	OG	SER	B	183	-66.289	41.396	43.672	1.00	45.27	B	O
ATOM 1629	N	ARG	B	184	-63.392	38.455	44.701	1.00	48.52	B	N
ATOM 1630	CA	ARG	B	184	-62.639	37.248	44.572	1.00	48.52	B	C
ATOM 1631	C	ARG	B	184	-63.565	36.134	44.226	1.00	48.52	B	C
ATOM 1632	O	ARG	B	184	-64.594	35.935	44.870	1.00	48.52	B	O
ATOM 1633	CB	ARG	B	184	-61.861	36.807	45.827	1.00	48.52	B	C
ATOM 1634	CG	ARG	B	184	-62.717	36.456	47.041	1.00	48.52	B	C
ATOM 1635	CD	ARG	B	184	-61.883	36.190	48.295	1.00	48.52	B	C
ATOM 1636	NE	ARG	B	184	-61.175	34.890	48.121	1.00	48.52	B	N
ATOM 1637	CZ	ARG	B	184	-61.742	33.752	48.615	1.00	48.52	B	C
ATOM 1638	NH1	ARG	B	184	-62.968	33.811	49.212	1.00	48.52	B	N
ATOM 1639	NH2	ARG	B	184	-61.085	32.560	48.523	1.00	48.52	B	N
ATOM 1640	N	GLU	B	185	-63.215	35.385	43.164	1.00	48.52	B	N
ATOM 1641	CA	GLU	B	185	-63.974	34.220	42.831	1.00	48.59	B	C
ATOM 1642	C	GLU	B	185	-63.236	33.129	43.511	1.00	48.59	B	C
ATOM 1643	O	GLU	B	185	-62.152	32.730	43.085	1.00	48.59	B	O
ATOM 1644	CB	GLU	B	185	-64.003	33.897	41.326	1.00	48.59	B	C
ATOM 1645	CG	GLU	B	185	-64.781	34.921	40.500	1.00	48.59	B	C
ATOM 1646	CD	GLU	B	185	-66.246	34.835	40.905	1.00	48.59	B	C
ATOM 1647	OE1	GLU	B	185	-66.564	34.010	41.802	1.00	48.59	B	O

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Figure 10-26

ATOM 1648	OE2	GLU	B	185	-67.066	35.595	40.324	1.00	48.59	B	O
ATOM 1649	N	GLY	B	186	-63.811	32.616	44.607	1.00	50.68	B	N
ATOM 1650	CA	GLY	B	186	-63.070	31.657	45.352	1.00	50.68	B	C
ATOM 1651	C	GLY	B	186	-63.229	30.318	44.750	1.00	50.68	B	C
ATOM 1652	O	GLY	B	186	-64.131	30.053	43.955	1.00	50.68	B	O
ATOM 1653	N	GLN	B	187	-62.339	29.411	45.197	1.00	55.20	B	N
ATOM 1654	CA	GLN	B	187	-62.491	28.030	44.892	1.00	55.20	B	C
ATOM 1655	C	GLN	B	187	-63.788	27.764	45.575	1.00	55.20	B	C
ATOM 1656	O	GLN	B	187	-64.605	26.964	45.125	1.00	55.20	B	O
ATOM 1657	CB	GLN	B	187	-61.421	27.133	45.539	1.00	55.20	B	C
ATOM 1658	CG	GLN	B	187	-61.469	27.113	47.069	1.00	55.20	B	C
ATOM 1659	CD	GLN	B	187	-60.912	28.433	47.579	1.00	55.20	B	C
ATOM 1660	OE1	GLN	B	187	-59.781	28.803	47.271	1.00	55.20	B	O
ATOM 1661	NE2	GLN	B	187	-61.728	29.169	48.380	1.00	55.20	B	N
ATOM 1662	N	GLY	B	188	-63.978	28.486	46.702	1.00	56.44	B	N
ATOM 1663	CA	GLY	B	188	-65.193	28.545	47.450	1.00	56.44	B	C
ATOM 1664	C	GLY	B	188	-66.058	29.581	46.763	1.00	56.44	B	C
ATOM 1665	O	GLY	B	188	-66.122	29.605	45.536	1.00	56.44	B	O
ATOM 1666	N	ARG	B	189	-66.759	30.454	47.531	1.00	56.19	B	N
ATOM 1667	CA	ARG	B	189	-67.697	31.422	46.995	1.00	56.19	B	C
ATOM 1668	C	ARG	B	189	-67.022	32.711	46.582	1.00	56.19	B	C
ATOM 1669	O	ARG	B	189	-65.827	32.909	46.800	1.00	56.19	B	O
ATOM 1670	CB	ARG	B	189	-68.824	31.771	47.987	1.00	56.19	B	C
ATOM 1671	CG	ARG	B	189	-69.979	32.565	47.371	1.00	56.19	B	C
ATOM 1672	CD	ARG	B	189	-71.120	32.855	48.351	1.00	56.19	B	C
ATOM 1673	NE	ARG	B	189	-70.692	33.982	49.226	1.00	56.19	B	N
ATOM 1674	CZ	ARG	B	189	-70.906	35.271	48.829	1.00	56.19	B	C
ATOM 1675	NH1	ARG	B	189	-71.511	35.524	47.633	1.00	56.19	B	N
ATOM 1676	NH2	ARG	B	189	-70.515	36.305	49.629	1.00	56.19	B	N
ATOM 1677	N	GLN	B	190	-67.796	33.613	45.921	1.00	52.24	B	N
ATOM 1678	CA	GLN	B	190	-67.308	34.885	45.446	1.00	52.24	B	C
ATOM 1679	C	GLN	B	190	-67.723	35.959	46.401	1.00	52.24	B	C
ATOM 1680	O	GLN	B	190	-68.865	36.004	46.852	1.00	52.24	B	O
ATOM 1681	CB	GLN	B	190	-67.829	35.258	44.043	1.00	52.24	B	C
ATOM 1682	CG	GLN	B	190	-69.343	35.475	43.960	1.00	52.24	B	C
ATOM 1683	CD	GLN	B	190	-69.655	36.905	44.384	1.00	52.24	B	C
ATOM 1684	OE1	GLN	B	190	-70.582	37.151	45.155	1.00	52.24	B	O
ATOM 1685	NE2	GLN	B	190	-68.864	37.879	43.861	1.00	52.24	B	N
ATOM 1686	N	GLU	B	191	-66.774	36.852	46.747	1.00	45.63	B	N
ATOM 1687	CA	GLU	B	191	-67.064	37.931	47.648	1.00	45.63	B	C
ATOM 1688	C	GLU	B	191	-66.290	39.118	47.171	1.00	45.63	B	C
ATOM 1689	O	GLU	B	191	-65.360	38.978	46.379	1.00	45.63	B	O
ATOM 1690	CB	GLU	B	191	-66.643	37.644	49.099	1.00	45.63	B	C
ATOM 1691	CG	GLU	B	191	-67.098	38.706	50.101	1.00	45.63	B	C
ATOM 1692	CD	GLU	B	191	-66.611	38.281	51.480	1.00	45.63	B	C
ATOM 1693	OE1	GLU	B	191	-65.808	37.313	51.551	1.00	45.63	B	O
ATOM 1694	OE2	GLU	B	191	-67.036	38.917	52.482	1.00	45.63	B	O
ATOM 1695	N	THR	B	192	-66.658	40.330	47.634	1.00	41.18	B	N
ATOM 1696	CA	THR	B	192	-65.947	41.494	47.187	1.00	41.18	B	C
ATOM 1697	C	THR	B	192	-65.006	41.900	48.275	1.00	41.18	B	C
ATOM 1698	O	THR	B	192	-65.418	42.177	49.400	1.00	41.18	B	O
ATOM 1699	CB	THR	B	192	-66.826	42.679	46.907	1.00	41.18	B	C
ATOM 1700	OG1	THR	B	192	-67.432	43.141	48.106	1.00	41.18	B	O
ATOM 1701	OG2	THR	B	192	-67.908	42.261	45.896	1.00	41.18	B	C
ATOM 1702	N	LEU	B	193	-63.694	41.893	47.965	1.00	40.86	B	N
ATOM 1703	CA	LEU	B	193	-62.694	42.250	48.927	1.00	40.86	B	C
ATOM 1704	C	LEU	B	193	-62.767	43.711	49.249	1.00	40.86	B	C
ATOM 1705	O	LEU	B	193	-62.862	44.089	50.416	1.00	40.86	B	O
ATOM 1706	CB	LEU	B	193	-61.269	41.960	48.424	1.00	40.86	B	C
ATOM 1707	CG	LEU	B	193	-60.992	40.462	48.188	1.00	40.86	B	C
ATOM 1708	CD1	LEU	B	193	-61.905	39.884	47.096	1.00	40.86	B	C
ATOM 1709	CD2	LEU	B	193	-59.506	40.209	47.895	1.00	40.86	B	C
ATOM 1710	N	PHE	B	194	-62.755	44.577	48.213	1.00	41.35	B	N
ATOM 1711	CA	PHE	B	194	-62.752	45.986	48.484	1.00	41.35	B	C
ATOM 1712	C	PHE	B	194	-63.587	46.642	47.430	1.00	41.35	B	C
ATOM 1713	O	PHE	B	194	-63.783	46.086	46.351	1.00	41.35	B	O

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Figure 10-27

ATOM 1714	CB	PHE	B	194	-61.352	46.615	48.382	1.00	41.35	B	C
ATOM 1715	CG	PHE	B	194	-60.450	45.847	49.290	1.00	41.35	B	C
ATOM 1716	CD1	PHE	B	194	-60.375	46.139	50.631	1.00	41.35	B	C
ATOM 1717	CD2	PHE	B	194	-59.688	44.816	48.789	1.00	41.35	B	C
ATOM 1718	CE1	PHE	B	194	-59.541	45.421	51.456	1.00	41.35	B	C
ATOM 1719	CE2	PHE	B	194	-58.851	44.096	49.608	1.00	41.35	B	C
ATOM 1720	CZ	PHE	B	194	-58.778	44.397	50.946	1.00	41.35	B	C
ATOM 1721	N	ARG	B	195	-64.111	47.851	47.722	1.00	42.11	B	N
ATOM 1722	CA	ARG	B	195	-64.916	48.532	46.749	1.00	42.11	B	C
ATOM 1723	C	ARG	B	195	-64.583	49.989	46.795	1.00	42.11	B	C
ATOM 1724	O	ARG	B	195	-64.068	50.491	47.793	1.00	42.11	B	O
ATOM 1725	CB	ARG	B	195	-66.429	48.382	46.988	1.00	42.11	B	C
ATOM 1726	CG	ARG	B	195	-66.903	48.905	48.345	1.00	42.11	B	C
ATOM 1727	CD	ARG	B	195	-68.392	48.661	48.598	1.00	42.11	B	C
ATOM 1728	NE	ARG	B	195	-68.718	49.215	49.943	1.00	42.11	B	N
ATOM 1729	CZ	ARG	B	195	-69.082	50.526	50.075	1.00	42.11	B	C
ATOM 1730	NH1	ARG	B	195	-69.160	51.327	48.974	1.00	42.11	B	N
ATOM 1731	NH2	ARG	B	195	-69.368	51.031	51.311	1.00	42.11	B	N
ATOM 1732	N	CYS	B	196	-64.858	50.705	45.684	1.00	42.45	B	N
ATOM 1733	CA	CYS	B	196	-64.550	52.103	45.630	1.00	42.45	B	C
ATOM 1734	C	CYS	B	196	-65.806	52.784	45.171	1.00	42.45	B	C
ATOM 1735	O	CYS	B	196	-66.524	52.260	44.319	1.00	42.45	B	O
ATOM 1736	CB	CYS	B	196	-63.413	52.383	44.624	1.00	42.45	B	C
ATOM 1737	SG	CYS	B	196	-62.443	53.879	44.976	1.00	42.45	B	S
ATOM 1738	N	ILE	B	197	-66.142	53.950	45.762	1.00	39.20	B	N
ATOM 1739	CA	ILE	B	197	-67.339	54.633	45.352	1.00	39.20	B	C
ATOM 1740	C	ILE	B	197	-67.040	56.094	45.238	1.00	39.20	B	C
ATOM 1741	O	ILE	B	197	-66.321	56.654	46.064	1.00	39.20	B	O
ATOM 1742	CB	ILE	B	197	-68.472	54.488	46.323	1.00	39.20	B	C
ATOM 1743	CG1	ILE	B	197	-69.775	55.031	45.712	1.00	39.20	B	C
ATOM 1744	CG2	ILE	B	197	-68.062	55.180	47.634	1.00	39.20	B	C
ATOM 1745	CD1	ILE	B	197	-70.271	54.221	44.515	1.00	39.20	B	C
ATOM 1746	N	ARG	B	198	-67.585	56.754	44.194	1.00	37.08	B	N
ATOM 1747	CA	ARG	B	198	-67.345	58.160	44.055	1.00	37.08	B	C
ATOM 1748	C	ARG	B	198	-68.599	58.807	43.558	1.00	37.08	B	C
ATOM 1749	O	ARG	B	198	-69.280	58.279	42.679	1.00	37.08	B	O
ATOM 1750	CB	ARG	B	198	-66.233	58.494	43.046	1.00	37.08	B	C
ATOM 1751	CG	ARG	B	198	-65.923	59.987	42.949	1.00	37.08	B	C
ATOM 1752	CD	ARG	B	198	-65.284	60.557	44.217	1.00	37.08	B	C
ATOM 1753	NE	ARG	B	198	-63.985	59.854	44.417	1.00	37.08	B	N
ATOM 1754	CZ	ARG	B	198	-63.162	60.219	45.443	1.00	37.08	B	C
ATOM 1755	NH1	ARG	B	198	-63.527	61.231	46.283	1.00	37.08	B	N
ATOM 1756	NH2	ARG	B	198	-61.974	59.572	45.627	1.00	37.08	B	N
ATOM 1757	N	SER	B	199	-68.943	59.981	44.124	1.00	34.75	B	N
ATOM 1758	CA	SER	B	199	-70.105	60.677	43.659	1.00	34.75	B	C
ATOM 1759	C	SER	B	199	-69.716	61.330	42.377	1.00	34.75	B	C
ATOM 1760	O	SER	B	199	-68.567	61.726	42.196	1.00	34.75	B	O
ATOM 1761	CB	SER	B	199	-70.597	61.779	44.613	1.00	34.75	B	C
ATOM 1762	OG	SER	B	199	-71.748	62.412	44.073	1.00	34.75	B	O
ATOM 1763	N	MET	B	200	-70.679	61.471	41.450	1.00	33.48	B	N
ATOM 1764	CA	MET	B	200	-70.373	62.046	40.169	1.00	33.48	B	C
ATOM 1765	C	MET	B	200	-71.165	63.307	40.034	1.00	33.48	B	C
ATOM 1766	O	MET	B	200	-72.300	63.404	40.498	1.00	33.48	B	O
ATOM 1767	CB	MET	B	200	-70.776	61.155	38.979	1.00	33.48	B	C
ATOM 1768	CG	MET	B	200	-70.031	59.817	38.881	1.00	33.48	B	C
ATOM 1769	SD	MET	B	200	-68.271	59.925	38.431	1.00	33.48	B	S
ATOM 1770	CE	MET	B	200	-67.658	60.191	40.118	1.00	33.48	B	C
ATOM 1771	N	PRO	B	201	-70.557	64.280	39.411	1.00	34.55	B	N
ATOM 1772	CA	PRO	B	201	-71.191	65.546	39.158	1.00	34.55	B	C
ATOM 1773	C	PRO	B	201	-72.149	65.409	38.020	1.00	34.55	B	C
ATOM 1774	O	PRO	B	201	-72.121	64.385	37.338	1.00	34.55	B	O
ATOM 1775	CB	PRO	B	201	-70.058	66.542	38.897	1.00	34.55	B	C
ATOM 1776	CG	PRO	B	201	-68.816	65.669	38.645	1.00	34.55	B	C
ATOM 1777	CD	PRO	B	201	-69.109	64.390	39.439	1.00	34.55	B	C
ATOM 1778	N	SER	B	202	-72.997	66.431	37.786	1.00	35.65	B	N
ATOM 1779	CA	SER	B	202	-73.982	66.338	36.751	1.00	35.65	B	C

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Figure 10-28

ATOM 1780	C	SER B 202	-73.279	66.055	35.465	1.00	35.65	B	C
ATOM 1781	O	SER B 202	-72.057	66.158	35.377	1.00	35.65	B	O
ATOM 1782	CB	SER B 202	-74.808	67.623	36.562	1.00	35.65	B	C
ATOM 1783	OG	SER B 202	-75.756	67.444	35.520	1.00	35.65	B	O
ATOM 1784	N	HIS B 203	-74.053	65.648	34.438	1.00	37.84	B	N
ATOM 1785	CA	HIS B 203	-73.500	65.331	33.153	1.00	37.84	B	C
ATOM 1786	C	HIS B 203	-72.842	66.558	32.616	1.00	37.84	B	C
ATOM 1787	O	HIS B 203	-71.743	66.480	32.068	1.00	37.84	B	O
ATOM 1788	CB	HIS B 203	-74.554	64.861	32.129	1.00	37.84	B	C
ATOM 1789	CG	HIS B 203	-73.995	64.649	30.750	1.00	37.84	B	C
ATOM 1790	ND1	HIS B 203	-73.426	63.478	30.304	1.00	37.84	B	N
ATOM 1791	CD2	HIS B 203	-73.929	65.515	29.702	1.00	37.84	B	C
ATOM 1792	CE1	HIS B 203	-73.046	63.691	29.018	1.00	37.84	B	C
ATOM 1793	NE2	HIS B 203	-73.331	64.914	28.609	1.00	37.84	B	N
ATOM 1794	N	PRO B 204	-73.461	67.696	32.749	1.00	38.77	B	N
ATOM 1795	CA	PRO B 204	-72.821	68.887	32.278	1.00	38.77	B	C
ATOM 1796	C	PRO B 204	-71.650	69.171	33.153	1.00	38.77	B	C
ATOM 1797	O	PRO B 204	-70.826	70.008	32.791	1.00	38.77	B	O
ATOM 1798	CB	PRO B 204	-73.894	69.971	32.292	1.00	38.77	B	C
ATOM 1799	CG	PRO B 204	-75.200	69.186	32.084	1.00	38.77	B	C
ATOM 1800	CD	PRO B 204	-74.912	67.807	32.695	1.00	38.77	B	C
ATOM 1801	N	ASP B 205	-71.558	68.491	34.311	1.00	39.11	B	N
ATOM 1802	CA	ASP B 205	-70.493	68.803	35.210	1.00	39.11	B	C
ATOM 1803	C	ASP B 205	-69.258	68.060	34.830	1.00	39.11	B	C
ATOM 1804	O	ASP B 205	-68.373	67.907	35.670	1.00	39.11	B	O
ATOM 1805	CB	ASP B 205	-70.815	68.455	36.672	1.00	39.11	B	C
ATOM 1806	CG	ASP B 205	-71.842	69.457	37.179	1.00	39.11	B	C
ATOM 1807	OD1	ASP B 205	-72.144	70.425	36.432	1.00	39.11	B	O
ATOM 1808	OD2	ASP B 205	-72.331	69.272	38.326	1.00	39.11	B	O
ATOM 1809	N	ARG B 206	-69.165	67.618	33.553	1.00	38.97	B	N
ATOM 1810	CA	ARG B 206	-68.002	66.955	33.021	1.00	38.97	B	C
ATOM 1811	C	ARG B 206	-67.522	65.943	34.005	1.00	38.97	B	C
ATOM 1812	O	ARG B 206	-66.458	66.109	34.598	1.00	38.97	B	O
ATOM 1813	CB	ARG B 206	-66.841	67.919	32.719	1.00	38.97	B	C
ATOM 1814	CG	ARG B 206	-67.188	68.967	31.660	1.00	38.97	B	C
ATOM 1815	CD	ARG B 206	-67.036	68.469	30.222	1.00	38.97	B	C
ATOM 1816	NE	ARG B 206	-67.407	69.596	29.321	1.00	38.97	B	N
ATOM 1817	CZ	ARG B 206	-66.941	69.633	28.039	1.00	38.97	B	C
ATOM 1818	NH1	ARG B 206	-66.119	68.642	27.583	1.00	38.97	B	N
ATOM 1819	NH2	ARG B 206	-67.295	70.660	27.213	1.00	38.97	B	N
ATOM 1820	N	ALA B 207	-68.311	64.881	34.240	1.00	37.60	B	N
ATOM 1821	CA	ALA B 207	-67.908	63.948	35.247	1.00	37.60	B	C
ATOM 1822	C	ALA B 207	-66.574	63.384	34.887	1.00	37.60	B	C
ATOM 1823	O	ALA B 207	-66.393	62.819	33.810	1.00	37.60	B	O
ATOM 1824	CB	ALA B 207	-68.886	62.772	35.420	1.00	37.60	B	C
ATOM 1825	N	TYR B 208	-65.581	63.596	35.774	1.00	38.50	B	N
ATOM 1826	CA	TYR B 208	-64.304	62.966	35.635	1.00	38.50	B	C
ATOM 1827	C	TYR B 208	-63.831	62.661	37.020	1.00	38.50	B	C
ATOM 1828	O	TYR B 208	-63.390	63.558	37.737	1.00	38.50	B	O
ATOM 1829	CB	TYR B 208	-63.229	63.841	34.963	1.00	38.50	B	C
ATOM 1830	CG	TYR B 208	-63.587	63.994	33.523	1.00	38.50	B	C
ATOM 1831	CD1	TYR B 208	-64.453	64.979	33.111	1.00	38.50	B	C
ATOM 1832	CD2	TYR B 208	-63.051	63.147	32.579	1.00	38.50	B	C
ATOM 1833	CE1	TYR B 208	-64.783	65.120	31.785	1.00	38.50	B	C
ATOM 1834	CE2	TYR B 208	-63.376	63.281	31.250	1.00	38.50	B	C
ATOM 1835	CZ	TYR B 208	-64.244	64.269	30.851	1.00	38.50	B	C
ATOM 1836	OH	TYR B 208	-64.580	64.410	29.488	1.00	38.50	B	O
ATOM 1837	N	ASN B 209	-63.896	61.385	37.446	1.00	40.97	B	N
ATOM 1838	CA	ASN B 209	-63.420	61.082	38.762	1.00	40.97	B	C
ATOM 1839	C	ASN B 209	-62.795	59.730	38.720	1.00	40.97	B	C
ATOM 1840	O	ASN B 209	-63.384	58.780	38.211	1.00	40.97	B	O
ATOM 1841	CB	ASN B 209	-64.521	61.024	39.837	1.00	40.97	B	C
ATOM 1842	CG	ASN B 209	-64.997	62.441	40.124	1.00	40.97	B	C
ATOM 1843	OD1	ASN B 209	-66.191	62.728	40.085	1.00	40.97	B	O
ATOM 1844	ND2	ASN B 209	-64.035	63.354	40.433	1.00	40.97	B	N
ATOM 1845	N	SER B 210	-61.578	59.604	39.280	1.00	43.32	B	N

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Figure 10-29

ATOM 1846	CA	SER	B	210	-60.932	58.327	39.303	1.00	43.32	B	C
ATOM 1847	C	SER	B	210	-61.100	57.807	40.693	1.00	43.32	B	C
ATOM 1848	O	SER	B	210	-61.231	58.584	41.637	1.00	43.32	B	O
ATOM 1849	CB	SER	B	210	-59.424	58.388	39.001	1.00	43.32	B	C
ATOM 1850	OG	SER	B	210	-58.753	59.124	40.013	1.00	43.32	B	O
ATOM 1851	N	CYS	B	211	-61.140	56.469	40.855	1.00	46.49	B	N
ATOM 1852	CA	CYS	B	211	-61.350	55.943	42.172	1.00	46.49	B	C
ATOM 1853	C	CYS	B	211	-60.326	54.862	42.364	1.00	46.49	B	C
ATOM 1854	O	CYS	B	211	-60.163	53.992	41.510	1.00	46.49	B	O
ATOM 1855	CB	CYS	B	211	-62.758	55.331	42.318	1.00	46.49	B	C
ATOM 1856	SG	CYS	B	211	-63.425	55.357	44.010	1.00	46.49	B	S
ATOM 1857	N	TYR	B	212	-59.595	54.902	43.498	1.00	44.78	B	N
ATOM 1858	CA	TYR	B	212	-58.537	53.961	43.757	1.00	44.78	B	C
ATOM 1859	C	TYR	B	212	-58.788	53.318	45.088	1.00	44.78	B	C
ATOM 1860	O	TYR	B	212	-59.156	53.989	46.050	1.00	44.78	B	O
ATOM 1861	CB	TYR	B	212	-57.179	54.688	43.836	1.00	44.78	B	C
ATOM 1862	CG	TYR	B	212	-56.092	53.783	44.309	1.00	44.78	B	C
ATOM 1863	CD1	TYR	B	212	-55.880	53.618	45.659	1.00	44.78	B	C
ATOM 1864	CD2	TYR	B	212	-55.283	53.112	43.420	1.00	44.78	B	C
ATOM 1865	CE1	TYR	B	212	-54.877	52.798	46.120	1.00	44.78	B	C
ATOM 1866	CE2	TYR	B	212	-54.278	52.291	43.877	1.00	44.78	B	C
ATOM 1867	CZ	TYR	B	212	-54.073	52.133	45.227	1.00	44.78	B	C
ATOM 1868	OH	TYR	B	212	-53.041	51.293	45.698	1.00	44.78	B	O
ATOM 1869	N	SER	B	213	-58.608	51.984	45.172	1.00	38.20	B	N
ATOM 1870	CA	SER	B	213	-58.779	51.300	46.422	1.00	38.20	B	C
ATOM 1871	C	SER	B	213	-57.855	50.126	46.416	1.00	38.20	B	C
ATOM 1872	O	SER	B	213	-57.610	49.527	45.370	1.00	38.20	B	O
ATOM 1873	CB	SER	B	213	-60.203	50.763	46.638	1.00	38.20	B	C
ATOM 1874	OG	SER	B	213	-60.293	50.104	47.893	1.00	38.20	B	O
ATOM 1875	N	ALA	B	214	-57.307	49.764	47.595	1.00	32.33	B	N
ATOM 1876	CA	ALA	B	214	-56.398	48.656	47.650	1.00	32.33	B	C
ATOM 1877	C	ALA	B	214	-56.501	48.043	49.007	1.00	32.33	B	C
ATOM 1878	O	ALA	B	214	-56.993	48.664	49.947	1.00	32.33	B	O
ATOM 1879	CB	ALA	B	214	-54.928	49.061	47.447	1.00	32.33	B	C
ATOM 1880	N	GLY	B	215	-56.040	46.783	49.136	1.00	26.56	B	N
ATOM 1881	CA	GLY	B	215	-56.097	46.126	50.408	1.00	26.56	B	C
ATOM 1882	C	GLY	B	215	-55.288	44.876	50.310	1.00	26.56	B	C
ATOM 1883	O	GLY	B	215	-54.796	44.518	49.240	1.00	26.56	B	O
ATOM 1884	N	VAL	B	216	-55.127	44.177	51.450	1.00	26.90	B	N
ATOM 1885	CA	VAL	B	216	-54.369	42.963	51.461	1.00	26.90	B	C
ATOM 1886	C	VAL	B	216	-55.326	41.857	51.763	1.00	26.90	B	C
ATOM 1887	O	VAL	B	216	-56.238	42.020	52.573	1.00	26.90	B	O
ATOM 1888	CB	VAL	B	216	-53.306	42.945	52.521	1.00	26.90	B	C
ATOM 1889	CG1	VAL	B	216	-53.988	43.033	53.896	1.00	26.90	B	C
ATOM 1890	CG2	VAL	B	216	-52.442	41.689	52.332	1.00	26.90	B	C
ATOM 1891	N	PHE	B	217	-55.161	40.701	51.088	1.00	30.85	B	N
ATOM 1892	CA	PHE	B	217	-56.050	39.608	51.342	1.00	30.85	B	C
ATOM 1893	C	PHE	B	217	-55.276	38.350	51.115	1.00	30.85	B	C
ATOM 1894	O	PHE	B	217	-54.313	38.330	50.349	1.00	30.85	B	O
ATOM 1895	CB	PHE	B	217	-57.263	39.600	50.394	1.00	30.85	B	C
ATOM 1896	CG	PHE	B	217	-58.240	38.579	50.865	1.00	30.85	B	C
ATOM 1897	CD1	PHE	B	217	-59.077	38.861	51.920	1.00	30.85	B	C
ATOM 1898	CD2	PHE	B	217	-58.334	37.351	50.250	1.00	30.85	B	C
ATOM 1899	CE1	PHE	B	217	-59.988	37.931	52.363	1.00	30.85	B	C
ATOM 1900	CE2	PHE	B	217	-59.244	36.418	50.689	1.00	30.85	B	C
ATOM 1901	CZ	PHE	B	217	-60.072	36.706	51.747	1.00	30.85	B	C
ATOM 1902	N	HIS	B	218	-55.677	37.255	51.788	1.00	33.56	B	N
ATOM 1903	CA	HIS	B	218	-54.981	36.016	51.608	1.00	33.56	B	C
ATOM 1904	C	HIS	B	218	-55.764	35.237	50.605	1.00	33.56	B	C
ATOM 1905	O	HIS	B	218	-56.939	34.940	50.823	1.00	33.56	B	O
ATOM 1906	CB	HIS	B	218	-54.897	35.172	52.892	1.00	33.56	B	C
ATOM 1907	CG	HIS	B	218	-54.171	33.873	52.711	1.00	33.56	B	C
ATOM 1908	ND1	HIS	B	218	-52.799	33.738	52.774	1.00	33.56	B	N
ATOM 1909	CD2	HIS	B	218	-54.654	32.625	52.467	1.00	33.56	B	C
ATOM 1910	CE1	HIS	B	218	-52.526	32.426	52.566	1.00	33.56	B	C
ATOM 1911	NE2	HIS	B	218	-53.620	31.709	52.375	1.00	33.56	B	N

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Figure 10-30

ATOM 1912	N	LEU B 219	-55.130	34.898	49.465	1.00	36.08	B	N
ATOM 1913	CA	LEU B 219	-55.841	34.175	48.453	1.00	36.08	B	C
ATOM 1914	C	LEU B 219	-55.323	32.775	48.400	1.00	36.08	B	C
ATOM 1915	O	LEU B 219	-54.174	32.505	48.744	1.00	36.08	B	O
ATOM 1916	CB	LEU B 219	-55.732	34.750	47.027	1.00	36.08	B	C
ATOM 1917	CG	LEU B 219	-56.228	36.203	46.874	1.00	36.08	B	C
ATOM 1918	CD1	LEU B 219	-57.613	36.397	47.508	1.00	36.08	B	C
ATOM 1919	CD2	LEU B 219	-55.181	37.227	47.330	1.00	36.08	B	C
ATOM 1920	N	HIS B 220	-56.190	31.838	47.965	1.00	34.21	B	N
ATOM 1921	CA	HIS B 220	-55.810	30.461	47.870	1.00	34.21	B	C
ATOM 1922	C	HIS B 220	-55.592	30.166	46.426	1.00	34.21	B	C
ATOM 1923	O	HIS B 220	-56.165	30.813	45.549	1.00	34.21	B	O
ATOM 1924	CB	HIS B 220	-56.895	29.494	48.371	1.00	34.21	B	C
ATOM 1925	CG	HIS B 220	-57.226	29.678	49.824	1.00	34.21	B	C
ATOM 1926	ND1	HIS B 220	-58.068	30.655	50.303	1.00	34.21	B	N
ATOM 1927	CD2	HIS B 220	-56.807	28.981	50.915	1.00	34.21	B	C
ATOM 1928	CE1	HIS B 220	-58.117	30.504	51.652	1.00	34.21	B	C
ATOM 1929	NE2	HIS B 220	-57.367	29.500	52.069	1.00	34.21	B	N
ATOM 1930	N	GLN B 221	-54.741	29.167	46.141	1.00	31.81	B	N
ATOM 1931	CA	GLN B 221	-54.462	28.842	44.778	1.00	31.81	B	C
ATOM 1932	C	GLN B 221	-55.753	28.442	44.148	1.00	31.81	B	C
ATOM 1933	O	GLN B 221	-56.552	27.718	44.741	1.00	31.81	B	O
ATOM 1934	CB	GLN B 221	-53.486	27.666	44.617	1.00	31.81	B	C
ATOM 1935	CG	GLN B 221	-53.186	27.312	43.161	1.00	31.81	B	C
ATOM 1936	CD	GLN B 221	-52.214	26.141	43.161	1.00	31.81	B	C
ATOM 1937	OE1	GLN B 221	-51.846	25.628	44.217	1.00	31.81	B	O
ATOM 1938	NE2	GLN B 221	-51.787	25.700	41.948	1.00	31.81	B	N
ATOM 1939	N	GLY B 222	-55.983	28.921	42.910	1.00	32.05	B	N
ATOM 1940	CA	GLY B 222	-57.178	28.587	42.199	1.00	32.05	B	C
ATOM 1941	C	GLY B 222	-58.120	29.745	42.253	1.00	32.05	B	C
ATOM 1942	O	GLY B 222	-59.055	29.822	41.458	1.00	32.05	B	O
ATOM 1943	N	ASP B 223	-57.894	30.695	43.180	1.00	33.04	B	N
ATOM 1944	CA	ASP B 223	-58.795	31.807	43.268	1.00	33.04	B	C
ATOM 1945	C	ASP B 223	-58.556	32.718	42.105	1.00	33.04	B	C
ATOM 1946	O	ASP B 223	-57.540	32.620	41.421	1.00	33.04	B	O
ATOM 1947	CB	ASP B 223	-58.659	32.652	44.554	1.00	33.04	B	C
ATOM 1948	CG	ASP B 223	-59.267	31.900	45.731	1.00	33.04	B	C
ATOM 1949	OD1	ASP B 223	-60.020	30.921	45.489	1.00	33.04	B	O
ATOM 1950	OD2	ASP B 223	-58.988	32.306	46.891	1.00	33.04	B	O
ATOM 1951	N	ILE B 224	-59.527	33.617	41.838	1.00	35.91	B	N
ATOM 1952	CA	ILE B 224	-59.405	34.560	40.768	1.00	35.91	B	C
ATOM 1953	C	ILE B 224	-59.885	35.880	41.283	1.00	35.91	B	C
ATOM 1954	O	ILE B 224	-60.806	35.935	42.095	1.00	35.91	B	O
ATOM 1955	CB	ILE B 224	-60.277	34.246	39.590	1.00	35.91	B	C
ATOM 1956	CG1	ILE B 224	-59.908	32.883	38.987	1.00	35.91	B	C
ATOM 1957	CG2	ILE B 224	-60.167	35.412	38.593	1.00	35.91	B	C
ATOM 1958	CD1	ILE B 224	-60.950	32.363	38.000	1.00	35.91	B	C
ATOM 1959	N	LEU B 225	-59.261	36.987	40.839	1.00	39.64	B	N
ATOM 1960	CA	LEU B 225	-59.766	38.263	41.244	1.00	39.64	B	C
ATOM 1961	C	LEU B 225	-60.198	38.986	40.010	1.00	39.64	B	C
ATOM 1962	O	LEU B 225	-59.582	38.852	38.953	1.00	39.64	B	O
ATOM 1963	CB	LEU B 225	-58.802	39.116	42.093	1.00	39.64	B	C
ATOM 1964	CG	LEU B 225	-58.606	38.522	43.509	1.00	39.64	B	C
ATOM 1965	CD1	LEU B 225	-57.659	39.325	44.400	1.00	39.64	B	C
ATOM 1966	CD2	LEU B 225	-59.952	38.359	44.209	1.00	39.64	B	C
ATOM 1967	N	SER B 226	-61.317	39.735	40.109	1.00	40.89	B	N
ATOM 1968	CA	SER B 226	-61.821	40.443	38.968	1.00	40.89	B	C
ATOM 1969	C	SER B 226	-62.309	41.780	39.429	1.00	40.89	B	C
ATOM 1970	O	SER B 226	-62.658	41.951	40.596	1.00	40.89	B	O
ATOM 1971	CB	SER B 226	-63.005	39.741	38.279	1.00	40.89	B	C
ATOM 1972	OG	SER B 226	-63.448	40.500	37.164	1.00	40.89	B	O
ATOM 1973	N	VAL B 227	-62.330	42.775	38.515	1.00	43.63	B	N
ATOM 1974	CA	VAL B 227	-62.817	44.078	38.872	1.00	43.63	B	C
ATOM 1975	C	VAL B 227	-64.134	44.271	38.178	1.00	43.63	B	C
ATOM 1976	O	VAL B 227	-64.235	44.168	36.957	1.00	43.63	B	O
ATOM 1977	CB	VAL B 227	-61.892	45.186	38.474	1.00	43.63	B	C

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Figure 10-31

ATOM 1978	CG1	VAL	B	227	-61.667	45.116	36.957	1.00	43.63	B	C
ATOM 1979	CG2	VAL	B	227	-62.495	46.516	38.955	1.00	43.63	B	C
ATOM 1980	N	ILE	B	228	-65.192	44.572	38.957	1.00	47.24	B	N
ATOM 1981	CA	ILE	B	228	-66.522	44.641	38.417	1.00	47.24	B	C
ATOM 1982	C	ILE	B	228	-67.156	45.965	38.739	1.00	47.24	B	C
ATOM 1983	O	ILE	B	228	-67.016	46.479	39.847	1.00	47.24	B	O
ATOM 1984	CB	ILE	B	228	-67.377	43.567	39.026	1.00	47.24	B	C
ATOM 1985	CG1	ILE	B	228	-66.839	42.175	38.654	1.00	47.24	B	C
ATOM 1986	CG2	ILE	B	228	-68.825	43.797	38.602	1.00	47.24	B	C
ATOM 1987	CD1	ILE	B	228	-66.851	41.902	37.151	1.00	47.24	B	C
ATOM 1988	N	ILE	B	229	-67.881	46.558	37.760	1.00	49.00	B	N
ATOM 1989	CA	ILE	B	229	-68.556	47.807	38.006	1.00	49.00	B	C
ATOM 1990	C	ILE	B	229	-70.027	47.555	37.931	1.00	49.00	B	C
ATOM 1991	O	ILE	B	229	-70.561	47.314	36.849	1.00	49.00	B	O
ATOM 1992	CB	ILE	B	229	-68.230	48.871	37.005	1.00	49.00	B	C
ATOM 1993	CG1	ILE	B	229	-66.735	49.205	37.080	1.00	49.00	B	C
ATOM 1994	CG2	ILE	B	229	-69.146	50.079	37.260	1.00	49.00	B	C
ATOM 1995	CD1	ILE	B	229	-66.266	50.075	35.922	1.00	49.00	B	C
ATOM 1996	N	PRO	B	230	-70.697	47.592	39.059	1.00	51.49	B	N
ATOM 1997	CA	PRO	B	230	-72.109	47.350	39.031	1.00	51.49	B	C
ATOM 1998	C	PRO	B	230	-72.859	48.436	38.341	1.00	51.49	B	C
ATOM 1999	O	PRO	B	230	-73.344	49.348	39.007	1.00	51.49	B	O
ATOM 2000	CB	PRO	B	230	-72.526	47.106	40.479	1.00	51.49	B	C
ATOM 2001	CG	PRO	B	230	-71.251	46.524	41.117	1.00	51.49	B	C
ATOM 2002	CD	PRO	B	230	-70.098	47.140	40.304	1.00	51.49	B	C
ATOM 2003	N	ARG	B	231	-73.024	48.326	37.016	1.00	51.08	B	N
ATOM 2004	CA	ARG	B	231	-73.797	49.295	36.307	1.00	51.08	B	C
ATOM 2005	C	ARG	B	231	-73.781	48.888	34.874	1.00	51.08	B	C
ATOM 2006	O	ARG	B	231	-72.759	48.436	34.360	1.00	51.08	B	O
ATOM 2007	CB	ARG	B	231	-73.266	50.732	36.384	1.00	51.08	B	C
ATOM 2008	CG	ARG	B	231	-74.220	51.706	35.693	1.00	51.08	B	C
ATOM 2009	CD	ARG	B	231	-73.917	53.178	35.951	1.00	51.08	B	C
ATOM 2010	NE	ARG	B	231	-75.023	53.957	35.329	1.00	51.08	B	N
ATOM 2011	CZ	ARG	B	231	-76.181	54.160	36.022	1.00	51.08	B	C
ATOM 2012	NH1	ARG	B	231	-76.322	53.650	37.280	1.00	51.08	B	N
ATOM 2013	NH2	ARG	B	231	-77.200	54.872	35.458	1.00	51.08	B	N
ATOM 2014	N	ALA	B	232	-74.928	49.021	34.186	1.00	49.08	B	N
ATOM 2015	CA	ALA	B	232	-74.922	48.662	32.800	1.00	49.08	B	C
ATOM 2016	C	ALA	B	232	-74.294	49.804	32.074	1.00	49.08	B	C
ATOM 2017	O	ALA	B	232	-74.614	50.956	32.364	1.00	49.08	B	O
ATOM 2018	CB	ALA	B	232	-76.325	48.444	32.210	1.00	49.08	B	C
ATOM 2019	N	ARG	B	233	-73.414	49.502	31.090	1.00	50.24	B	N
ATOM 2020	CA	ARG	B	233	-72.741	50.518	30.329	1.00	50.24	B	C
ATOM 2021	C	ARG	B	233	-72.174	51.513	31.290	1.00	50.24	B	C
ATOM 2022	O	ARG	B	233	-72.717	52.602	31.457	1.00	50.24	B	O
ATOM 2023	CB	ARG	B	233	-73.672	51.275	29.370	1.00	50.24	B	C
ATOM 2024	CG	ARG	B	233	-74.292	50.395	28.285	1.00	50.24	B	C
ATOM 2025	CD	ARG	B	233	-75.215	51.166	27.338	1.00	50.24	B	C
ATOM 2026	NE	ARG	B	233	-75.748	50.195	26.341	1.00	50.24	B	N
ATOM 2027	CZ	ARG	B	233	-76.849	50.519	25.602	1.00	50.24	B	C
ATOM 2028	NH1	ARG	B	233	-77.449	51.734	25.767	1.00	50.24	B	N
ATOM 2029	NH2	ARG	B	233	-77.353	49.625	24.702	1.00	50.24	B	N
ATOM 2030	N	ALA	B	234	-71.072	51.146	31.965	1.00	53.30	B	N
ATOM 2031	CA	ALA	B	234	-70.518	51.955	33.009	1.00	53.30	B	C
ATOM 2032	C	ALA	B	234	-70.116	53.323	32.532	1.00	53.30	B	C
ATOM 2033	O	ALA	B	234	-70.399	54.297	33.227	1.00	53.30	B	O
ATOM 2034	CB	ALA	B	234	-69.296	51.311	33.683	1.00	53.30	B	C
ATOM 2035	N	LYS	B	235	-69.542	53.470	31.316	1.00	58.84	B	N
ATOM 2036	CA	LYS	B	235	-69.010	54.752	30.913	1.00	58.84	B	C
ATOM 2037	C	LYS	B	235	-67.800	55.100	31.734	1.00	58.84	B	C
ATOM 2038	O	LYS	B	235	-67.850	55.933	32.639	1.00	58.84	B	O
ATOM 2039	CB	LYS	B	235	-70.012	55.914	31.032	1.00	58.84	B	C
ATOM 2040	CG	LYS	B	235	-71.056	55.952	29.913	1.00	58.84	B	C
ATOM 2041	CD	LYS	B	235	-72.044	54.788	29.943	1.00	58.84	B	C
ATOM 2042	CE	LYS	B	235	-73.081	54.837	28.820	1.00	58.84	B	C
ATOM 2043	NZ	LYS	B	235	-72.447	54.472	27.533	1.00	58.84	B	N

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Figure 10-32

ATOM 2044	N	LEU	B	236	-66.677	54.403	31.430	1.00	63.52	B	N
ATOM 2045	CA	LEU	B	236	-65.392	54.553	32.071	1.00	63.52	B	C
ATOM 2046	C	LEU	B	236	-64.412	55.147	31.087	1.00	63.52	B	C
ATOM 2047	O	LEU	B	236	-64.769	55.549	29.981	1.00	63.52	B	O
ATOM 2048	CB	LEU	B	236	-64.691	53.235	32.420	1.00	63.52	B	C
ATOM 2049	CG	LEU	B	236	-65.497	52.227	33.237	1.00	63.52	B	C
ATOM 2050	CD1	LEU	B	236	-66.672	51.685	32.411	1.00	63.52	B	C
ATOM 2051	CD2	LEU	B	236	-64.573	51.117	33.756	1.00	63.52	B	C
ATOM 2052	N	ASN	B	237	-63.139	55.283	31.534	1.00	65.59	B	N
ATOM 2053	CA	ASN	B	237	-62.011	55.816	30.798	1.00	65.59	B	C
ATOM 2054	C	ASN	B	237	-61.359	54.882	29.799	1.00	65.59	B	C
ATOM 2055	O	ASN	B	237	-61.121	55.253	28.651	1.00	65.59	B	O
ATOM 2056	CB	ASN	B	237	-60.902	56.290	31.756	1.00	65.59	B	C
ATOM 2057	CG	ASN	B	237	-59.917	57.155	30.984	1.00	65.59	B	C
ATOM 2058	OD1	ASN	B	237	-58.848	57.492	31.491	1.00	65.59	B	O
ATOM 2059	ND2	ASN	B	237	-60.283	57.538	29.732	1.00	65.59	B	N
ATOM 2060	N	LEU	B	238	-61.014	53.650	30.219	1.00	66.15	B	N
ATOM 2061	CA	LEU	B	238	-60.304	52.703	29.394	1.00	66.15	B	C
ATOM 2062	C	LEU	B	238	-58.946	53.237	29.039	1.00	66.15	B	C
ATOM 2063	O	LEU	B	238	-58.264	52.686	28.175	1.00	66.15	B	O
ATOM 2064	CB	LEU	B	238	-61.047	52.290	28.115	1.00	66.15	B	C
ATOM 2065	CG	LEU	B	238	-62.402	51.655	28.458	1.00	66.15	B	C
ATOM 2066	CD1	LEU	B	238	-62.940	50.781	27.314	1.00	66.15	B	C
ATOM 2067	CD2	LEU	B	238	-62.343	50.965	29.827	1.00	66.15	B	C
ATOM 2068	N	SER	B	239	-58.490	54.307	29.720	1.00	64.73	B	N
ATOM 2069	CA	SER	B	239	-57.173	54.809	29.433	1.00	64.73	B	C
ATOM 2070	C	SER	B	239	-56.208	54.009	30.250	1.00	64.73	B	C
ATOM 2071	O	SER	B	239	-56.318	53.907	31.472	1.00	64.73	B	O
ATOM 2072	CB	SER	B	239	-56.971	56.292	29.796	1.00	64.73	B	C
ATOM 2073	OG	SER	B	239	-57.733	57.123	28.933	1.00	64.73	B	O
ATOM 2074	N	PRO	B	240	-55.231	53.481	29.564	1.00	68.26	B	N
ATOM 2075	CA	PRO	B	240	-54.270	52.577	30.137	1.00	68.26	B	C
ATOM 2076	C	PRO	B	240	-53.691	53.128	31.391	1.00	68.26	B	C
ATOM 2077	O	PRO	B	240	-53.365	52.349	32.289	1.00	68.26	B	O
ATOM 2078	CB	PRO	B	240	-53.194	52.399	29.068	1.00	68.26	B	C
ATOM 2079	CG	PRO	B	240	-53.225	53.736	28.310	1.00	68.26	B	C
ATOM 2080	CD	PRO	B	240	-54.698	54.166	28.395	1.00	68.26	B	C
ATOM 2081	N	HIS	B	241	-53.520	54.457	31.454	1.00	72.12	B	N
ATOM 2082	CA	HIS	B	241	-53.001	55.065	32.637	1.00	72.12	B	C
ATOM 2083	C	HIS	B	241	-54.184	55.692	33.285	1.00	72.12	B	C
ATOM 2084	O	HIS	B	241	-54.578	56.794	32.914	1.00	72.12	B	O
ATOM 2085	CB	HIS	B	241	-52.039	56.238	32.363	1.00	72.12	B	C
ATOM 2086	CG	HIS	B	241	-50.835	55.881	31.544	1.00	72.12	B	C
ATOM 2087	ND1	HIS	B	241	-50.819	55.867	30.167	1.00	72.12	B	N
ATOM 2088	CD2	HIS	B	241	-49.578	55.536	31.935	1.00	72.12	B	C
ATOM 2089	CE1	HIS	B	241	-49.561	55.518	29.796	1.00	72.12	B	C
ATOM 2090	NE2	HIS	B	241	-48.773	55.307	30.834	1.00	72.12	B	N
ATOM 2091	N	GLY	B	242	-54.751	55.047	34.311	1.00	75.74	B	N
ATOM 2092	CA	GLY	B	242	-55.907	55.616	34.930	1.00	75.74	B	C
ATOM 2093	C	GLY	B	242	-56.861	54.518	35.264	1.00	75.74	B	C
ATOM 2094	O	GLY	B	242	-57.506	54.576	36.310	1.00	75.74	B	O
ATOM 2095	N	THR	B	243	-57.010	53.485	34.414	1.00	77.20	B	N
ATOM 2096	CA	THR	B	243	-57.853	52.442	34.914	1.00	77.20	B	C
ATOM 2097	C	THR	B	243	-57.140	51.129	34.825	1.00	77.20	B	C
ATOM 2098	O	THR	B	243	-57.120	50.474	33.793	1.00	77.20	B	O
ATOM 2099	CB	THR	B	243	-59.235	52.405	34.321	1.00	77.20	B	C
ATOM 2100	OG1	THR	B	243	-60.045	51.511	35.064	1.00	77.20	B	O
ATOM 2101	CG2	THR	B	243	-59.194	51.994	32.853	1.00	77.20	B	C
ATOM 2102	N	PHE	B	244	-56.541	50.683	35.944	1.00	71.63	B	N
ATOM 2103	CA	PHE	B	244	-55.749	49.485	35.924	1.00	71.63	B	C
ATOM 2104	C	PHE	B	244	-56.073	48.644	37.121	1.00	71.63	B	C
ATOM 2105	O	PHE	B	244	-56.794	49.077	38.017	1.00	71.63	B	O
ATOM 2106	CB	PHE	B	244	-54.250	49.809	35.942	1.00	71.63	B	C
ATOM 2107	CG	PHE	B	244	-54.075	50.769	37.067	1.00	71.63	B	C
ATOM 2108	CD1	PHE	B	244	-53.869	50.335	38.355	1.00	71.63	B	C
ATOM 2109	CD2	PHE	B	244	-54.138	52.123	36.827	1.00	71.63	B	C

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Figure 10-33

ATOM 2110	CE1	PHE	B	244	-53.719	51.237	39.382	1.00	71.63	B	C
ATOM 2111	CE2	PHE	B	244	-53.989	53.030	37.848	1.00	71.63	B	C
ATOM 2112	CZ	PHE	B	244	-53.773	52.587	39.131	1.00	71.63	B	C
ATOM 2113	N	LEU	B	245	-55.573	47.385	37.138	1.00	65.02	B	N
ATOM 2114	CA	LEU	B	245	-55.844	46.491	38.237	1.00	65.02	B	C
ATOM 2115	C	LEU	B	245	-54.588	45.712	38.435	1.00	65.02	B	C
ATOM 2116	O	LEU	B	245	-53.915	45.374	37.460	1.00	65.02	B	O
ATOM 2117	CB	LEU	B	245	-56.848	45.360	37.977	1.00	65.02	B	C
ATOM 2118	CG	LEU	B	245	-57.932	45.744	36.994	1.00	65.02	B	C
ATOM 2119	CD1	LEU	B	245	-58.678	47.032	37.381	1.00	65.02	B	C
ATOM 2120	CD2	LEU	B	245	-57.262	45.754	35.627	1.00	65.02	B	C
ATOM 2121	N	GLY	B	246	-54.239	45.369	39.692	1.00	55.28	B	N
ATOM 2122	CA	GLY	B	246	-53.024	44.617	39.818	1.00	55.28	B	C
ATOM 2123	C	GLY	B	246	-52.912	43.961	41.160	1.00	55.28	B	C
ATOM 2124	O	GLY	B	246	-53.610	44.321	42.108	1.00	55.28	B	O
ATOM 2125	N	PHE	B	247	-52.003	42.958	41.248	1.00	47.05	B	N
ATOM 2126	CA	PHE	B	247	-51.727	42.252	42.469	1.00	47.05	B	C
ATOM 2127	C	PHE	B	247	-50.251	42.205	42.653	1.00	47.05	B	C
ATOM 2128	O	PHE	B	247	-49.501	41.998	41.700	1.00	47.05	B	O
ATOM 2129	CB	PHE	B	247	-51.918	40.730	42.495	1.00	47.05	B	C
ATOM 2130	CG	PHE	B	247	-53.315	40.339	42.315	1.00	47.05	B	C
ATOM 2131	CD1	PHE	B	247	-54.283	41.011	43.002	1.00	47.05	B	C
ATOM 2132	CD2	PHE	B	247	-53.623	39.248	41.537	1.00	47.05	B	C
ATOM 2133	CE1	PHE	B	247	-55.579	40.627	42.840	1.00	47.05	B	C
ATOM 2134	CE2	PHE	B	247	-54.929	38.865	41.388	1.00	47.05	B	C
ATOM 2135	CZ	PHE	B	247	-55.907	39.566	42.037	1.00	47.05	B	C
ATOM 2136	N	VAL	B	248	-49.817	42.331	43.918	1.00	40.65	B	N
ATOM 2137	CA	VAL	B	248	-48.441	42.137	44.241	1.00	40.65	B	C
ATOM 2138	C	VAL	B	248	-48.445	41.100	45.310	1.00	40.65	B	C
ATOM 2139	O	VAL	B	248	-49.254	41.152	46.235	1.00	40.65	B	O
ATOM 2140	CB	VAL	B	248	-47.757	43.352	44.788	1.00	40.65	B	C
ATOM 2141	CG1	VAL	B	248	-48.515	43.812	46.040	1.00	40.65	B	C
ATOM 2142	CG2	VAL	B	248	-46.288	42.995	45.075	1.00	40.65	B	C
ATOM 2143	N	LYS	B	249	-47.536	40.117	45.197	1.00	34.46	B	N
ATOM 2144	CA	LYS	B	249	-47.502	39.068	46.168	1.00	34.46	B	C
ATOM 2145	C	LYS	B	249	-46.561	39.507	47.235	1.00	34.46	B	C
ATOM 2146	O	LYS	B	249	-45.412	39.854	46.964	1.00	34.46	B	O
ATOM 2147	CB	LYS	B	249	-47.011	37.742	45.560	1.00	34.46	B	C
ATOM 2148	CG	LYS	B	249	-47.124	36.515	46.465	1.00	34.46	B	C
ATOM 2149	CD	LYS	B	249	-47.066	35.205	45.673	1.00	34.46	B	C
ATOM 2150	CE	LYS	B	249	-46.266	35.315	44.371	1.00	34.46	B	C
ATOM 2151	NZ	LYS	B	249	-46.295	34.038	43.625	1.00	34.46	B	N
ATOM 2152	N	LEU	B	250	-47.040	39.520	48.493	1.00	29.77	B	N
ATOM 2153	CA	LEU	B	250	-46.217	39.966	49.574	1.00	29.77	B	C
ATOM 2154	C	LEU	B	250	-45.177	38.893	49.864	1.00	29.77	B	C
ATOM 2155	1OCT	LEU	B	250	-45.573	37.756	50.233	1.00	29.77	B	O
ATOM 2156	CB	LEU	B	250	-47.005	40.231	50.867	1.00	29.77	B	C
ATOM 2157	CG	LEU	B	250	-47.998	41.400	50.736	1.00	29.77	B	C
ATOM 2158	CD1	LEU	B	250	-48.765	41.635	52.045	1.00	29.77	B	C
ATOM 2159	CD2	LEU	B	250	-47.303	42.669	50.221	1.00	29.77	B	C
ATOM 2160	2OCT	LEU	B	250	-43.964	39.208	49.723	1.00	29.77	B	O
ATOM 2161	N	GLN	C	114	-34.206	44.364	53.112	1.00	54.74	C	N
ATOM 2162	CA	GLN	C	114	-34.797	45.606	53.481	1.00	54.74	C	C
ATOM 2163	C	GLN	C	114	-35.086	46.285	52.195	1.00	54.74	C	C
ATOM 2164	O	GLN	C	114	-34.172	46.673	51.472	1.00	54.74	C	O
ATOM 2165	CB	GLN	C	114	-33.865	46.526	54.290	1.00	54.74	C	C
ATOM 2166	CG	GLN	C	114	-33.478	45.964	55.659	1.00	54.74	C	C
ATOM 2167	CD	GLN	C	114	-32.558	46.974	56.330	1.00	54.74	C	C
ATOM 2168	OE1	GLN	C	114	-32.255	48.024	55.766	1.00	54.74	C	O
ATOM 2169	NE2	GLN	C	114	-32.100	46.652	57.569	1.00	54.74	C	N
ATOM 2170	N	HIS	C	115	-36.378	46.419	51.852	1.00	53.85	C	N
ATOM 2171	CA	HIS	C	115	-36.696	47.057	50.616	1.00	53.85	C	C
ATOM 2172	C	HIS	C	115	-36.412	48.509	50.797	1.00	53.85	C	C
ATOM 2173	O	HIS	C	115	-36.802	49.103	51.800	1.00	53.85	C	O
ATOM 2174	CB	HIS	C	115	-38.173	46.912	50.214	1.00	53.85	C	C
ATOM 2175	CG	HIS	C	115	-39.110	47.445	51.258	1.00	53.85	C	C

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ATOM 2176	ND1	HIS	C	115	-39.419	48.779	51.413	1.00	53.85	C	N
ATOM 2177	CD2	HIS	C	115	-39.812	46.788	52.221	1.00	53.85	C	C
ATOM 2178	CE1	HIS	C	115	-40.285	48.860	52.455	1.00	53.85	C	C
ATOM 2179	NE2	HIS	C	115	-40.553	47.678	52.977	1.00	53.85	C	N
ATOM 2180	N	SER	C	116	-35.714	49.121	49.821	1.00	49.07	C	N
ATOM 2181	CA	SER	C	116	-35.396	50.512	49.940	1.00	49.07	C	C
ATOM 2182	C	SER	C	116	-36.636	51.279	49.624	1.00	49.07	C	C
ATOM 2183	O	SER	C	116	-37.510	50.792	48.907	1.00	49.07	C	O
ATOM 2184	CB	SER	C	116	-34.312	50.985	48.957	1.00	49.07	C	C
ATOM 2185	OG	SER	C	116	-33.081	50.335	49.232	1.00	49.07	C	O
ATOM 2186	N	VAL	C	117	-36.755	52.498	50.185	1.00	46.78	C	N
ATOM 2187	CA	VAL	C	117	-37.902	53.316	49.913	1.00	46.78	C	C
ATOM 2188	C	VAL	C	117	-37.516	54.736	50.189	1.00	46.78	C	C
ATOM 2189	O	VAL	C	117	-36.638	55.005	51.008	1.00	46.78	C	O
ATOM 2190	CB	VAL	C	117	-39.071	53.028	50.815	1.00	46.78	C	C
ATOM 2191	CG1	VAL	C	117	-39.515	51.571	50.616	1.00	46.78	C	C
ATOM 2192	CG2	VAL	C	117	-38.663	53.367	52.259	1.00	46.78	C	C
ATOM 2193	N	LEU	C	118	-38.165	55.690	49.493	1.00	46.47	C	N
ATOM 2194	CA	LEU	C	118	-37.890	57.082	49.711	1.00	46.47	C	C
ATOM 2195	C	LEU	C	118	-39.210	57.784	49.607	1.00	46.47	C	C
ATOM 2196	O	LEU	C	118	-40.027	57.451	48.749	1.00	46.47	C	O
ATOM 2197	CB	LEU	C	118	-36.915	57.655	48.656	1.00	46.47	C	C
ATOM 2198	CG	LEU	C	118	-36.463	59.124	48.837	1.00	46.47	C	C
ATOM 2199	CD1	LEU	C	118	-35.392	59.485	47.796	1.00	46.47	C	C
ATOM 2200	CD2	LEU	C	118	-37.629	60.123	48.791	1.00	46.47	C	C
ATOM 2201	N	HIS	C	119	-39.472	58.768	50.492	1.00	47.74	C	N
ATOM 2202	CA	HIS	C	119	-40.730	59.447	50.387	1.00	47.74	C	C
ATOM 2203	C	HIS	C	119	-40.540	60.925	50.541	1.00	47.74	C	C
ATOM 2204	O	HIS	C	119	-39.681	61.387	51.292	1.00	47.74	C	O
ATOM 2205	CB	HIS	C	119	-41.796	58.939	51.375	1.00	47.74	C	C
ATOM 2206	CG	HIS	C	119	-41.236	58.508	52.696	1.00	47.74	C	C
ATOM 2207	ND1	HIS	C	119	-40.626	57.292	52.910	1.00	47.74	C	N
ATOM 2208	CD2	HIS	C	119	-41.204	59.152	53.891	1.00	47.74	C	C
ATOM 2209	CE1	HIS	C	119	-40.256	57.265	54.217	1.00	47.74	C	C
ATOM 2210	NE2	HIS	C	119	-40.587	58.373	54.853	1.00	47.74	C	N
ATOM 2211	N	LEU	C	120	-41.349	61.700	49.786	1.00	49.98	C	N
ATOM 2212	CA	LEU	C	120	-41.299	63.136	49.791	1.00	49.98	C	C
ATOM 2213	C	LEU	C	120	-42.593	63.653	50.342	1.00	49.98	C	C
ATOM 2214	O	LEU	C	120	-43.643	63.033	50.181	1.00	49.98	C	O
ATOM 2215	CB	LEU	C	120	-41.131	63.766	48.395	1.00	49.98	C	C
ATOM 2216	CG	LEU	C	120	-39.752	63.509	47.757	1.00	49.98	C	C
ATOM 2217	CD1	LEU	C	120	-39.518	62.011	47.531	1.00	49.98	C	C
ATOM 2218	CD2	LEU	C	120	-39.555	64.326	46.473	1.00	49.98	C	C
ATOM 2219	N	VAL	C	121	-42.526	64.825	51.009	1.00	49.34	C	N
ATOM 2220	CA	VAL	C	121	-43.627	65.460	51.684	1.00	49.34	C	C
ATOM 2221	C	VAL	C	121	-43.629	66.898	51.210	1.00	49.34	C	C
ATOM 2222	O	VAL	C	121	-42.565	67.495	51.075	1.00	49.34	C	O
ATOM 2223	CB	VAL	C	121	-43.340	65.379	53.172	1.00	49.34	C	C
ATOM 2224	CG1	VAL	C	121	-44.424	66.014	54.054	1.00	49.34	C	C
ATOM 2225	CG2	VAL	C	121	-43.099	63.892	53.486	1.00	49.34	C	C
ATOM 2226	N	PRO	C	122	-44.770	67.485	50.940	1.00	47.62	C	N
ATOM 2227	CA	PRO	C	122	-44.809	68.820	50.411	1.00	47.62	C	C
ATOM 2228	C	PRO	C	122	-44.182	69.762	51.381	1.00	47.62	C	C
ATOM 2229	O	PRO	C	122	-44.271	69.526	52.586	1.00	47.62	C	O
ATOM 2230	CB	PRO	C	122	-46.268	69.170	50.293	1.00	47.62	C	C
ATOM 2231	CG	PRO	C	122	-46.842	68.481	51.537	1.00	47.62	C	C
ATOM 2232	CD	PRO	C	122	-45.911	67.281	51.787	1.00	47.62	C	C
ATOM 2233	N	ILE	C	123	-43.567	70.845	50.869	1.00	42.63	C	N
ATOM 2234	CA	ILE	C	123	-42.961	71.807	51.737	1.00	42.63	C	C
ATOM 2235	C	ILE	C	123	-43.859	73.007	51.805	1.00	42.63	C	C
ATOM 2236	O	ILE	C	123	-44.010	73.771	50.852	1.00	42.63	C	O
ATOM 2237	CB	ILE	C	123	-41.580	72.227	51.299	1.00	42.63	C	C
ATOM 2238	CG1	ILE	C	123	-40.958	73.165	52.344	1.00	42.63	C	C
ATOM 2239	CG2	ILE	C	123	-41.645	72.803	49.875	1.00	42.63	C	C
ATOM 2240	CD1	ILE	C	123	-40.671	72.478	53.678	1.00	42.63	C	C
ATOM 2241	N	ASN	C	124	-44.478	73.198	52.981	1.00	35.86	C	N

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ATOM 2242	CA	ASN	C	124	-45.393	74.274	53.226	1.00	35.86	C	C
ATOM 2243	C	ASN	C	124	-44.630	75.558	53.151	1.00	35.86	C	C
ATOM 2244	O	ASN	C	124	-45.179	76.611	52.831	1.00	35.86	C	O
ATOM 2245	CB	ASN	C	124	-46.043	74.174	54.618	1.00	35.86	C	C
ATOM 2246	CG	ASN	C	124	-47.143	75.224	54.738	1.00	35.86	C	C
ATOM 2247	OD1	ASN	C	124	-46.888	76.426	54.695	1.00	35.86	C	O
ATOM 2248	ND2	ASN	C	124	-48.409	74.754	54.905	1.00	35.86	C	N
ATOM 2249	N	ALA	C	125	-43.328	75.490	53.475	1.00	31.82	C	N
ATOM 2250	CA	ALA	C	125	-42.474	76.639	53.536	1.00	31.82	C	C
ATOM 2251	C	ALA	C	125	-42.345	77.316	52.203	1.00	31.82	C	C
ATOM 2252	O	ALA	C	125	-42.354	78.545	52.144	1.00	31.82	C	O
ATOM 2253	CB	ALA	C	125	-41.053	76.287	54.008	1.00	31.82	C	C
ATOM 2254	N	THR	C	126	-42.238	76.563	51.088	1.00	29.76	C	N
ATOM 2255	CA	THR	C	126	-41.944	77.253	49.862	1.00	29.76	C	C
ATOM 2256	C	THR	C	126	-43.133	77.250	48.948	1.00	29.76	C	C
ATOM 2257	O	THR	C	126	-44.021	76.405	49.048	1.00	29.76	C	O
ATOM 2258	CB	THR	C	126	-40.785	76.656	49.117	1.00	29.76	C	C
ATOM 2259	OG1	THR	C	126	-39.656	76.570	49.975	1.00	29.76	C	O
ATOM 2260	CG2	THR	C	126	-40.438	77.581	47.938	1.00	29.76	C	C
ATOM 2261	N	SER	C	127	-43.174	78.241	48.029	1.00	31.01	C	N
ATOM 2262	CA	SER	C	127	-44.249	78.391	47.094	1.00	31.01	C	C
ATOM 2263	C	SER	C	127	-44.129	77.327	46.050	1.00	31.01	C	C
ATOM 2264	O	SER	C	127	-43.077	76.712	45.882	1.00	31.01	C	O
ATOM 2265	CB	SER	C	127	-44.251	79.749	46.373	1.00	31.01	C	C
ATOM 2266	OG	SER	C	127	-43.084	79.877	45.575	1.00	31.01	C	O
ATOM 2267	N	LYS	C	128	-45.236	77.097	45.319	1.00	36.69	C	N
ATOM 2268	CA	LYS	C	128	-45.315	76.071	44.322	1.00	36.69	C	C
ATOM 2269	C	LYS	C	128	-44.454	76.464	43.165	1.00	36.69	C	C
ATOM 2270	O	LYS	C	128	-44.332	77.645	42.843	1.00	36.69	C	O
ATOM 2271	CB	LYS	C	128	-46.744	75.875	43.795	1.00	36.69	C	C
ATOM 2272	CG	LYS	C	128	-46.946	74.567	43.041	1.00	36.69	C	C
ATOM 2273	CD	LYS	C	128	-46.861	73.347	43.950	1.00	36.69	C	C
ATOM 2274	CE	LYS	C	128	-47.259	73.649	45.393	1.00	36.69	C	C
ATOM 2275	NZ	LYS	C	128	-48.681	74.054	45.453	1.00	36.69	C	N
ATOM 2276	N	ASP	C	129	-43.818	75.466	42.518	1.00	40.37	C	N
ATOM 2277	CA	ASP	C	129	-42.955	75.738	41.406	1.00	40.37	C	C
ATOM 2278	C	ASP	C	129	-43.809	75.979	40.208	1.00	40.37	C	C
ATOM 2279	O	ASP	C	129	-44.735	75.220	39.924	1.00	40.37	C	O
ATOM 2280	CB	ASP	C	129	-41.992	74.584	41.081	1.00	40.37	C	C
ATOM 2281	CG	ASP	C	129	-40.927	75.094	40.117	1.00	40.37	C	C
ATOM 2282	OD1	ASP	C	129	-41.006	76.287	39.722	1.00	40.37	C	O
ATOM 2283	OD2	ASP	C	129	-40.019	74.295	39.766	1.00	40.37	C	O
ATOM 2284	N	ASP	C	130	-43.498	77.060	39.472	1.00	44.03	C	N
ATOM 2285	CA	ASP	C	130	-44.279	77.429	38.336	1.00	44.03	C	C
ATOM 2286	C	ASP	C	130	-43.498	77.159	37.090	1.00	44.03	C	C
ATOM 2287	O	ASP	C	130	-42.358	77.589	36.921	1.00	44.03	C	O
ATOM 2288	CB	ASP	C	130	-44.663	78.922	38.345	1.00	44.03	C	C
ATOM 2289	CG	ASP	C	130	-45.687	79.202	37.252	1.00	44.03	C	C
ATOM 2290	OD1	ASP	C	130	-45.441	78.810	36.081	1.00	44.03	C	O
ATOM 2291	OD2	ASP	C	130	-46.739	79.813	37.581	1.00	44.03	C	O
ATOM 2292	N	SER	C	131	-44.143	76.390	36.199	1.00	47.28	C	N
ATOM 2293	CA	SER	C	131	-43.748	76.039	34.870	1.00	47.28	C	C
ATOM 2294	C	SER	C	131	-45.084	76.131	34.210	1.00	47.28	C	C
ATOM 2295	O	SER	C	131	-45.994	76.675	34.825	1.00	47.28	C	O
ATOM 2296	CB	SER	C	131	-43.268	74.586	34.722	1.00	47.28	C	C
ATOM 2297	OG	SER	C	131	-42.899	74.329	33.375	1.00	47.28	C	O
ATOM 2298	N	ASP	C	132	-45.273	75.650	32.971	1.00	45.71	C	N
ATOM 2299	CA	ASP	C	132	-46.607	75.716	32.440	1.00	45.71	C	C
ATOM 2300	C	ASP	C	132	-47.416	74.861	33.350	1.00	45.71	C	C
ATOM 2301	O	ASP	C	132	-48.592	75.103	33.623	1.00	45.71	C	O
ATOM 2302	CB	ASP	C	132	-46.723	75.132	31.022	1.00	45.71	C	C
ATOM 2303	CG	ASP	C	132	-48.136	75.393	30.517	1.00	45.71	C	C
ATOM 2304	OD1	ASP	C	132	-48.935	76.006	31.274	1.00	45.71	C	O
ATOM 2305	OD2	ASP	C	132	-48.435	74.987	29.362	1.00	45.71	C	O
ATOM 2306	N	VAL	C	133	-46.752	73.821	33.866	1.00	46.63	C	N
ATOM 2307	CA	VAL	C	133	-47.376	72.918	34.763	1.00	46.63	C	C

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Figure 10-36

ATOM 2308	C	VAL	C	133	-46.972	73.390	36.125	1.00	46.63	C	C
ATOM 2309	O	VAL	C	133	-46.185	74.327	36.250	1.00	46.63	C	O
ATOM 2310	CB	VAL	C	133	-46.903	71.517	34.547	1.00	46.63	C	C
ATOM 2311	CG1	VAL	C	133	-45.693	71.235	35.455	1.00	46.63	C	C
ATOM 2312	CG2	VAL	C	133	-48.112	70.583	34.648	1.00	46.63	C	C
ATOM 2313	N	THR	C	134	-47.554	72.810	37.187	1.00	47.14	C	N
ATOM 2314	CA	THR	C	134	-47.220	73.262	38.505	1.00	47.14	C	C
ATOM 2315	C	THR	C	134	-46.667	72.099	39.272	1.00	47.14	C	C
ATOM 2316	O	THR	C	134	-47.252	71.017	39.282	1.00	47.14	C	O
ATOM 2317	CB	THR	C	134	-48.421	73.784	39.235	1.00	47.14	C	C
ATOM 2318	OG1	THR	C	134	-48.051	74.273	40.512	1.00	47.14	C	O
ATOM 2319	CG2	THR	C	134	-49.454	72.655	39.366	1.00	47.14	C	C
ATOM 2320	N	GLU	C	135	-45.518	72.306	39.948	1.00	48.66	C	N
ATOM 2321	CA	GLU	C	135	-44.851	71.255	40.662	1.00	48.66	C	C
ATOM 2322	C	GLU	C	135	-44.812	71.643	42.107	1.00	48.66	C	C
ATOM 2323	O	GLU	C	135	-44.633	72.816	42.430	1.00	48.66	C	O
ATOM 2324	CB	GLU	C	135	-43.399	71.106	40.186	1.00	48.66	C	C
ATOM 2325	CG	GLU	C	135	-43.294	70.669	38.721	1.00	48.66	C	C
ATOM 2326	CD	GLU	C	135	-41.834	70.745	38.295	1.00	48.66	C	C
ATOM 2327	OE1	GLU	C	135	-40.983	71.100	39.155	1.00	48.66	C	O
ATOM 2328	OE2	GLU	C	135	-41.552	70.453	37.103	1.00	48.66	C	O
ATOM 2329	N	VAL	C	136	-44.979	70.679	43.039	1.00	53.13	C	N
ATOM 2330	CA	VAL	C	136	-44.964	71.144	44.399	1.00	53.13	C	C
ATOM 2331	C	VAL	C	136	-43.577	70.967	44.920	1.00	53.13	C	C
ATOM 2332	O	VAL	C	136	-42.860	70.061	44.498	1.00	53.13	C	O
ATOM 2333	CB	VAL	C	136	-45.865	70.450	45.372	1.00	53.13	C	C
ATOM 2334	CG1	VAL	C	136	-47.252	70.239	44.745	1.00	53.13	C	C
ATOM 2335	CG2	VAL	C	136	-45.131	69.240	45.925	1.00	53.13	C	C
ATOM 2336	N	MET	C	137	-43.152	71.837	45.855	1.00	54.30	C	N
ATOM 2337	CA	MET	C	137	-41.825	71.687	46.365	1.00	54.30	C	C
ATOM 2338	C	MET	C	137	-41.809	70.579	47.354	1.00	54.30	C	C
ATOM 2339	O	MET	C	137	-42.673	70.475	48.227	1.00	54.30	C	O
ATOM 2340	CB	MET	C	137	-41.197	72.953	46.964	1.00	54.30	C	C
ATOM 2341	CG	MET	C	137	-40.824	73.946	45.865	1.00	54.30	C	C
ATOM 2342	SD	MET	C	137	-39.539	75.142	46.319	1.00	54.30	C	S
ATOM 2343	CE	MET	C	137	-38.199	73.918	46.361	1.00	54.30	C	C
ATOM 2344	N	TRP	C	138	-40.790	69.710	47.226	1.00	53.49	C	N
ATOM 2345	CA	TRP	C	138	-40.772	68.537	48.037	1.00	53.49	C	C
ATOM 2346	C	TRP	C	138	-39.694	68.644	49.060	1.00	53.49	C	C
ATOM 2347	O	TRP	C	138	-38.663	69.279	48.842	1.00	53.49	C	O
ATOM 2348	CB	TRP	C	138	-40.525	67.272	47.211	1.00	53.49	C	C
ATOM 2349	CG	TRP	C	138	-41.583	67.054	46.158	1.00	53.49	C	C
ATOM 2350	CD1	TRP	C	138	-41.459	66.985	44.801	1.00	53.49	C	C
ATOM 2351	CD2	TRP	C	138	-42.976	66.868	46.446	1.00	53.49	C	C
ATOM 2352	NE1	TRP	C	138	-42.683	66.728	44.228	1.00	53.49	C	N
ATOM 2353	CE2	TRP	C	138	-43.628	66.656	45.231	1.00	53.49	C	C
ATOM 2354	CE3	TRP	C	138	-43.657	66.847	47.632	1.00	53.49	C	C
ATOM 2355	CZ2	TRP	C	138	-44.975	66.402	45.187	1.00	53.49	C	C
ATOM 2356	CZ3	TRP	C	138	-45.017	66.614	47.579	1.00	53.49	C	C
ATOM 2357	CH2	TRP	C	138	-45.666	66.390	46.381	1.00	53.49	C	C
ATOM 2358	N	GLN	C	139	-39.950	68.041	50.238	1.00	49.24	C	N
ATOM 2359	CA	GLN	C	139	-38.985	68.001	51.296	1.00	49.24	C	C
ATOM 2360	C	GLN	C	139	-38.838	66.551	51.643	1.00	49.24	C	C
ATOM 2361	O	GLN	C	139	-39.831	65.851	51.833	1.00	49.24	C	O
ATOM 2362	CB	GLN	C	139	-39.444	68.739	52.565	1.00	49.24	C	C
ATOM 2363	CG	GLN	C	139	-38.377	68.805	53.658	1.00	49.24	C	C
ATOM 2364	CD	GLN	C	139	-37.347	69.845	53.239	1.00	49.24	C	C
ATOM 2365	OE1	GLN	C	139	-37.691	70.888	52.685	1.00	49.24	C	O
ATOM 2366	NE2	GLN	C	139	-36.045	69.555	53.507	1.00	49.24	C	N
ATOM 2367	N	PRO	C	140	-37.628	66.067	51.696	1.00	43.32	C	N
ATOM 2368	CA	PRO	C	140	-37.387	64.674	51.961	1.00	43.32	C	C
ATOM 2369	C	PRO	C	140	-37.991	64.232	53.257	1.00	43.32	C	C
ATOM 2370	O	PRO	C	140	-37.502	64.657	54.304	1.00	43.32	C	O
ATOM 2371	CB	PRO	C	140	-35.869	64.536	52.007	1.00	43.32	C	C
ATOM 2372	CG	PRO	C	140	-35.422	65.909	52.550	1.00	43.32	C	C
ATOM 2373	CD	PRO	C	140	-36.469	66.891	51.992	1.00	43.32	C	C

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Figure 10-37

ATOM 2374	N	ALA	C 141	-39.032	63.374	53.222	1.00	38.30	C	N
ATOM 2375	CA	ALA	C 141	-39.557	62.870	54.455	1.00	38.30	C	C
ATOM 2376	C	ALA	C 141	-38.545	61.943	55.043	1.00	38.30	C	C
ATOM 2377	O	ALA	C 141	-38.180	62.068	56.210	1.00	38.30	C	O
ATOM 2378	CB	ALA	C 141	-40.863	62.088	54.277	1.00	38.30	C	C
ATOM 2379	N	LEU	C 142	-38.044	61.002	54.218	1.00	34.74	C	N
ATOM 2380	CA	LEU	C 142	-37.062	60.054	54.663	1.00	34.74	C	C
ATOM 2381	C	LEU	C 142	-36.529	59.334	53.468	1.00	34.74	C	C
ATOM 2382	O	LEU	C 142	-37.214	59.188	52.456	1.00	34.74	C	O
ATOM 2383	CB	LEU	C 142	-37.602	58.964	55.608	1.00	34.74	C	C
ATOM 2384	CG	LEU	C 142	-37.993	59.451	57.014	1.00	34.74	C	C
ATOM 2385	CD1	LEU	C 142	-38.517	58.287	57.874	1.00	34.74	C	C
ATOM 2386	CD2	LEU	C 142	-36.832	60.196	57.693	1.00	34.74	C	C
ATOM 2387	N	ARG	C 143	-35.267	58.872	53.562	1.00	32.75	C	N
ATOM 2388	CA	ARG	C 143	-34.661	58.117	52.505	1.00	32.75	C	C
ATOM 2389	C	ARG	C 143	-34.056	56.907	53.139	1.00	32.75	C	C
ATOM 2390	O	ARG	C 143	-33.342	57.020	54.133	1.00	32.75	C	O
ATOM 2391	CB	ARG	C 143	-33.526	58.887	51.804	1.00	32.75	C	C
ATOM 2392	CG	ARG	C 143	-32.817	58.125	50.683	1.00	32.75	C	C
ATOM 2393	CD	ARG	C 143	-31.705	58.943	50.022	1.00	32.75	C	C
ATOM 2394	NE	ARG	C 143	-31.040	58.082	49.004	1.00	32.75	C	N
ATOM 2395	CZ	ARG	C 143	-29.930	57.363	49.342	1.00	32.75	C	C
ATOM 2396	NH1	ARG	C 143	-29.433	57.434	50.612	1.00	32.75	C	N
ATOM 2397	NH2	ARG	C 143	-29.316	56.575	48.412	1.00	32.75	C	N
ATOM 2398	N	ARG	C 144	-34.342	55.705	52.600	1.00	32.80	C	N
ATOM 2399	CA	ARG	C 144	-33.732	54.549	53.188	1.00	32.80	C	C
ATOM 2400	C	ARG	C 144	-33.286	53.634	52.091	1.00	32.80	C	C
ATOM 2401	O	ARG	C 144	-34.080	53.229	51.243	1.00	32.80	C	O
ATOM 2402	CB	ARG	C 144	-34.676	53.745	54.097	1.00	32.80	C	C
ATOM 2403	CG	ARG	C 144	-34.001	52.543	54.758	1.00	32.80	C	C
ATOM 2404	CD	ARG	C 144	-34.937	51.733	55.657	1.00	32.80	C	C
ATOM 2405	NE	ARG	C 144	-35.915	51.050	54.764	1.00	32.80	C	N
ATOM 2406	CZ	ARG	C 144	-36.781	50.128	55.277	1.00	32.80	C	C
ATOM 2407	NH1	ARG	C 144	-36.754	49.832	56.609	1.00	32.80	C	N
ATOM 2408	NH2	ARG	C 144	-37.674	49.504	54.456	1.00	32.80	C	N
ATOM 2409	N	GLY	C 145	-31.992	53.257	52.103	1.00	35.33	C	N
ATOM 2410	CA	GLY	C 145	-31.492	52.348	51.111	1.00	35.33	C	C
ATOM 2411	C	GLY	C 145	-30.751	53.113	50.057	1.00	35.33	C	C
ATOM 2412	O	GLY	C 145	-30.846	54.336	49.974	1.00	35.33	C	O
ATOM 2413	N	ARG	C 146	-29.937	52.381	49.262	1.00	39.72	C	N
ATOM 2414	CA	ARG	C 146	-29.120	52.912	48.203	1.00	39.72	C	C
ATOM 2415	C	ARG	C 146	-29.924	53.401	47.036	1.00	39.72	C	C
ATOM 2416	O	ARG	C 146	-29.735	54.523	46.572	1.00	39.72	C	O
ATOM 2417	CB	ARG	C 146	-28.130	51.872	47.651	1.00	39.72	C	C
ATOM 2418	CG	ARG	C 146	-28.815	50.631	47.076	1.00	39.72	C	C
ATOM 2419	CD	ARG	C 146	-27.840	49.589	46.525	1.00	39.72	C	C
ATOM 2420	NE	ARG	C 146	-28.645	48.442	46.021	1.00	39.72	C	N
ATOM 2421	CZ	ARG	C 146	-28.976	47.421	46.864	1.00	39.72	C	C
ATOM 2422	NH1	ARG	C 146	-28.570	47.452	48.167	1.00	39.72	C	N
ATOM 2423	NH2	ARG	C 146	-29.714	46.368	46.405	1.00	39.72	C	N
ATOM 2424	N	GLY	C 147	-30.869	52.584	46.536	1.00	44.41	C	N
ATOM 2425	CA	GLY	C 147	-31.603	52.990	45.376	1.00	44.41	C	C
ATOM 2426	C	GLY	C 147	-32.510	54.088	45.816	1.00	44.41	C	C
ATOM 2427	O	GLY	C 147	-32.772	54.228	47.008	1.00	44.41	C	O
ATOM 2428	N	LEU	C 148	-33.101	54.817	44.847	1.00	47.49	C	N
ATOM 2429	CA	LEU	C 148	-33.991	55.900	45.167	1.00	47.49	C	C
ATOM 2430	C	LEU	C 148	-33.376	56.936	46.064	1.00	47.49	C	C
ATOM 2431	O	LEU	C 148	-33.144	56.719	47.251	1.00	47.49	C	O
ATOM 2432	CB	LEU	C 148	-35.253	55.441	45.917	1.00	47.49	C	C
ATOM 2433	CG	LEU	C 148	-36.070	54.348	45.212	1.00	47.49	C	C
ATOM 2434	CD1	LEU	C 148	-35.272	53.039	45.118	1.00	47.49	C	C
ATOM 2435	CD2	LEU	C 148	-37.428	54.149	45.899	1.00	47.49	C	C
ATOM 2436	N	GLN	C 149	-33.004	58.084	45.458	1.00	46.88	C	N
ATOM 2437	CA	GLN	C 149	-32.512	59.210	46.199	1.00	46.88	C	C
ATOM 2438	C	GLN	C 149	-33.161	60.421	45.588	1.00	46.88	C	C
ATOM 2439	O	GLN	C 149	-33.642	60.361	44.457	1.00	46.88	C	O

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Figure 10-38

ATOM 2440	CB	GLN	C	149	-30.987	59.347	46.085	1.00	46.88	C	C
ATOM 2441	CG	GLN	C	149	-30.374	60.366	47.037	1.00	46.88	C	C
ATOM 2442	CD	GLN	C	149	-28.865	60.270	46.881	1.00	46.88	C	C
ATOM 2443	OE1	GLN	C	149	-28.364	59.430	46.134	1.00	46.88	C	O
ATOM 2444	NE2	GLN	C	149	-28.119	61.146	47.606	1.00	46.88	C	N
ATOM 2445	N	ALA	C	150	-33.225	61.554	46.321	1.00	45.60	C	N
ATOM 2446	CA	ALA	C	150	-33.867	62.716	45.769	1.00	45.60	C	C
ATOM 2447	C	ALA	C	150	-32.886	63.438	44.903	1.00	45.60	C	C
ATOM 2448	O	ALA	C	150	-31.756	63.712	45.306	1.00	45.60	C	O
ATOM 2449	CB	ALA	C	150	-34.374	63.705	46.832	1.00	45.60	C	C
ATOM 2450	N	GLN	C	151	-33.324	63.791	43.680	1.00	44.75	C	N
ATOM 2451	CA	GLN	C	151	-32.482	64.481	42.751	1.00	44.75	C	C
ATOM 2452	C	GLN	C	151	-32.876	65.913	42.835	1.00	44.75	C	C
ATOM 2453	O	GLN	C	151	-32.729	66.542	43.881	1.00	44.75	C	O
ATOM 2454	CB	GLN	C	151	-32.659	64.017	41.295	1.00	44.75	C	C
ATOM 2455	CG	GLN	C	151	-31.679	64.691	40.332	1.00	44.75	C	C
ATOM 2456	CD	GLN	C	151	-31.939	64.155	38.933	1.00	44.75	C	C
ATOM 2457	OE1	GLN	C	151	-31.977	64.914	37.966	1.00	44.75	C	O
ATOM 2458	NE2	GLN	C	151	-32.107	62.811	38.814	1.00	44.75	C	N
ATOM 2459	N	GLY	C	152	-33.360	66.490	41.722	1.00	44.25	C	N
ATOM 2460	CA	GLY	C	152	-33.764	67.855	41.827	1.00	44.25	C	C
ATOM 2461	C	GLY	C	152	-35.256	67.879	41.843	1.00	44.25	C	C
ATOM 2462	O	GLY	C	152	-35.895	67.963	40.795	1.00	44.25	C	O
ATOM 2463	N	TYR	C	153	-35.850	67.845	43.054	1.00	46.47	C	N
ATOM 2464	CA	TYR	C	153	-37.279	67.915	43.156	1.00	46.47	C	C
ATOM 2465	C	TYR	C	153	-37.914	66.630	42.657	1.00	46.47	C	C
ATOM 2466	O	TYR	C	153	-39.131	66.444	42.713	1.00	46.47	C	O
ATOM 2467	CB	TYR	C	153	-37.778	69.174	42.373	1.00	46.47	C	C
ATOM 2468	CG	TYR	C	153	-39.189	69.011	41.935	1.00	46.47	C	C
ATOM 2469	CD1	TYR	C	153	-40.254	69.278	42.763	1.00	46.47	C	C
ATOM 2470	CD2	TYR	C	153	-39.425	68.525	40.670	1.00	46.47	C	C
ATOM 2471	CE1	TYR	C	153	-41.538	69.074	42.311	1.00	46.47	C	C
ATOM 2472	CE2	TYR	C	153	-40.703	68.319	40.217	1.00	46.47	C	C
ATOM 2473	CZ	TYR	C	153	-41.763	68.596	41.043	1.00	46.47	C	C
ATOM 2474	OH	TYR	C	153	-43.077	68.381	40.584	1.00	46.47	C	O
ATOM 2475	N	GLY	C	154	-37.110	65.631	42.257	1.00	48.14	C	N
ATOM 2476	CA	GLY	C	154	-37.752	64.453	41.745	1.00	48.14	C	C
ATOM 2477	C	GLY	C	154	-37.065	63.255	42.315	1.00	48.14	C	C
ATOM 2478	O	GLY	C	154	-35.974	63.361	42.874	1.00	48.14	C	O
ATOM 2479	N	VAL	C	155	-37.684	62.060	42.182	1.00	50.13	C	N
ATOM 2480	CA	VAL	C	155	-37.019	60.932	42.760	1.00	50.13	C	C
ATOM 2481	C	VAL	C	155	-36.204	60.285	41.685	1.00	50.13	C	C
ATOM 2482	O	VAL	C	155	-36.676	60.074	40.566	1.00	50.13	C	O
ATOM 2483	CB	VAL	C	155	-37.919	59.892	43.354	1.00	50.13	C	C
ATOM 2484	CG1	VAL	C	155	-37.007	58.783	43.912	1.00	50.13	C	C
ATOM 2485	CG2	VAL	C	155	-38.829	60.549	44.409	1.00	50.13	C	C
ATOM 2486	N	ARG	C	156	-34.940	59.952	42.009	1.00	52.84	C	N
ATOM 2487	CA	ARG	C	156	-34.068	59.376	41.028	1.00	52.84	C	C
ATOM 2488	C	ARG	C	156	-33.878	57.929	41.354	1.00	52.84	C	C
ATOM 2489	O	ARG	C	156	-33.616	57.577	42.503	1.00	52.84	C	O
ATOM 2490	CB	ARG	C	156	-32.662	60.005	41.010	1.00	52.84	C	C
ATOM 2491	CG	ARG	C	156	-31.909	59.841	42.332	1.00	52.84	C	C
ATOM 2492	CD	ARG	C	156	-30.469	60.358	42.298	1.00	52.84	C	C
ATOM 2493	NE	ARG	C	156	-30.516	61.845	42.364	1.00	52.84	C	N
ATOM 2494	CZ	ARG	C	156	-29.380	62.548	42.651	1.00	52.84	C	C
ATOM 2495	NH1	ARG	C	156	-28.208	61.887	42.876	1.00	52.84	C	N
ATOM 2496	NH2	ARG	C	156	-29.417	63.911	42.714	1.00	52.84	C	N
ATOM 2497	N	ILE	C	157	-33.992	57.033	40.347	1.00	52.18	C	N
ATOM 2498	CA	ILE	C	157	-33.772	55.662	40.706	1.00	52.18	C	C
ATOM 2499	C	ILE	C	157	-32.380	55.236	40.372	1.00	52.18	C	C
ATOM 2500	O	ILE	C	157	-31.905	55.367	39.247	1.00	52.18	C	O
ATOM 2501	CB	ILE	C	157	-34.774	54.628	40.247	1.00	52.18	C	C
ATOM 2502	CG1	ILE	C	157	-34.973	54.604	38.732	1.00	52.18	C	C
ATOM 2503	CG2	ILE	C	157	-36.074	54.885	41.024	1.00	52.18	C	C
ATOM 2504	CD1	ILE	C	157	-35.847	55.760	38.272	1.00	52.18	C	C
ATOM 2505	N	GLN	C	158	-31.666	54.823	41.439	1.00	47.14	C	N

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Figure 10-39

ATOM 2506	CA	GLN	C	158	-30.313	54.344	41.453	1.00	47.14	C	C
ATOM 2507	C	GLN	C	158	-30.189	52.941	40.937	1.00	47.14	C	C
ATOM 2508	O	GLN	C	158	-29.200	52.606	40.289	1.00	47.14	C	O
ATOM 2509	CB	GLN	C	158	-29.711	54.354	42.868	1.00	47.14	C	C
ATOM 2510	CG	GLN	C	158	-29.560	55.755	43.463	1.00	47.14	C	C
ATOM 2511	CD	GLN	C	158	-28.406	56.445	42.750	1.00	47.14	C	C
ATOM 2512	OE1	GLN	C	158	-28.145	57.629	42.962	1.00	47.14	C	O
ATOM 2513	NE2	GLN	C	158	-27.691	55.684	41.878	1.00	47.14	C	N
ATOM 2514	N	ASP	C	159	-31.159	52.059	41.254	1.00	40.20	C	N
ATOM 2515	CA	ASP	C	159	-31.020	50.690	40.841	1.00	40.20	C	C
ATOM 2516	C	ASP	C	159	-32.264	50.261	40.129	1.00	40.20	C	C
ATOM 2517	O	ASP	C	159	-33.369	50.379	40.654	1.00	40.20	C	O
ATOM 2518	CB	ASP	C	159	-30.776	49.725	42.015	1.00	40.20	C	C
ATOM 2519	CG	ASP	C	159	-31.976	49.789	42.942	1.00	40.20	C	C
ATOM 2520	OD1	ASP	C	159	-32.451	50.922	43.230	1.00	40.20	C	O
ATOM 2521	OD2	ASP	C	159	-32.433	48.696	43.373	1.00	40.20	C	O
ATOM 2522	N	ALA	C	160	-32.108	49.726	38.902	1.00	33.14	C	N
ATOM 2523	CA	ALA	C	160	-33.252	49.323	38.139	1.00	33.14	C	C
ATOM 2524	C	ALA	C	160	-33.921	48.199	38.863	1.00	33.14	C	C
ATOM 2525	O	ALA	C	160	-33.263	47.375	39.498	1.00	33.14	C	O
ATOM 2526	CB	ALA	C	160	-32.908	48.827	36.723	1.00	33.14	C	C
ATOM 2527	N	GLY	C	161	-35.267	48.148	38.790	1.00	29.02	C	N
ATOM 2528	CA	GLY	C	161	-35.993	47.113	39.466	1.00	29.02	C	C
ATOM 2529	C	GLY	C	161	-37.448	47.469	39.428	1.00	29.02	C	C
ATOM 2530	O	GLY	C	161	-37.863	48.348	38.676	1.00	29.02	C	O
ATOM 2531	N	VAL	C	162	-38.264	46.778	40.251	1.00	31.57	C	N
ATOM 2532	CA	VAL	C	162	-39.679	47.018	40.275	1.00	31.57	C	C
ATOM 2533	C	VAL	C	162	-39.976	47.921	41.430	1.00	31.57	C	C
ATOM 2534	O	VAL	C	162	-39.428	47.753	42.518	1.00	31.57	C	O
ATOM 2535	CB	VAL	C	162	-40.481	45.768	40.474	1.00	31.57	C	C
ATOM 2536	CG1	VAL	C	162	-40.100	45.166	41.836	1.00	31.57	C	C
ATOM 2537	CG2	VAL	C	162	-41.974	46.117	40.346	1.00	31.57	C	C
ATOM 2538	N	TYR	C	163	-40.851	48.924	41.213	1.00	36.28	C	N
ATOM 2539	CA	TYR	C	163	-41.147	49.854	42.263	1.00	36.28	C	C
ATOM 2540	C	TYR	C	163	-42.622	50.063	42.393	1.00	36.28	C	C
ATOM 2541	O	TYR	C	163	-43.363	50.067	41.410	1.00	36.28	C	O
ATOM 2542	CB	TYR	C	163	-40.577	51.257	42.015	1.00	36.28	C	C
ATOM 2543	CG	TYR	C	163	-39.102	51.189	42.135	1.00	36.28	C	C
ATOM 2544	CD1	TYR	C	163	-38.318	50.746	41.094	1.00	36.28	C	C
ATOM 2545	CD2	TYR	C	163	-38.509	51.581	43.308	1.00	36.28	C	C
ATOM 2546	CE1	TYR	C	163	-36.950	50.695	41.225	1.00	36.28	C	C
ATOM 2547	CE2	TYR	C	163	-37.148	51.531	43.439	1.00	36.28	C	C
ATOM 2548	CZ	TYR	C	163	-36.366	51.085	42.405	1.00	36.28	C	C
ATOM 2549	OH	TYR	C	163	-34.967	51.042	42.565	1.00	36.28	C	O
ATOM 2550	N	LEU	C	164	-43.076	50.245	43.650	1.00	39.72	C	N
ATOM 2551	CA	LEU	C	164	-44.433	50.622	43.903	1.00	39.72	C	C
ATOM 2552	C	LEU	C	164	-44.357	52.106	44.069	1.00	39.72	C	C
ATOM 2553	O	LEU	C	164	-43.620	52.606	44.918	1.00	39.72	C	O
ATOM 2554	CB	LEU	C	164	-45.016	50.021	45.195	1.00	39.72	C	C
ATOM 2555	CG	LEU	C	164	-46.467	50.442	45.504	1.00	39.72	C	C
ATOM 2556	CD1	LEU	C	164	-47.444	49.928	44.436	1.00	39.72	C	C
ATOM 2557	CD2	LEU	C	164	-46.871	50.040	46.933	1.00	39.72	C	C
ATOM 2558	N	LEU	C	165	-45.099	52.844	43.227	1.00	44.09	C	N
ATOM 2559	CA	LEU	C	165	-45.051	54.279	43.206	1.00	44.09	C	C
ATOM 2560	C	LEU	C	165	-46.390	54.832	43.570	1.00	44.09	C	C
ATOM 2561	O	LEU	C	165	-47.408	54.414	43.022	1.00	44.09	C	O
ATOM 2562	CB	LEU	C	165	-44.717	54.782	41.792	1.00	44.09	C	C
ATOM 2563	CG	LEU	C	165	-44.967	56.276	41.528	1.00	44.09	C	C
ATOM 2564	CD1	LEU	C	165	-44.231	57.194	42.513	1.00	44.09	C	C
ATOM 2565	CD2	LEU	C	165	-44.665	56.592	40.053	1.00	44.09	C	C
ATOM 2566	N	TYR	C	166	-46.429	55.780	44.531	1.00	45.50	C	N
ATOM 2567	CA	TYR	C	166	-47.686	56.401	44.831	1.00	45.50	C	C
ATOM 2568	C	TYR	C	166	-47.513	57.870	45.067	1.00	45.50	C	C
ATOM 2569	O	TYR	C	166	-46.447	58.334	45.469	1.00	45.50	C	O
ATOM 2570	CB	TYR	C	166	-48.494	55.757	45.980	1.00	45.50	C	C
ATOM 2571	CG	TYR	C	166	-47.671	55.578	47.208	1.00	45.50	C	C

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ATOM 2572	CD1	TYR	C	166	-46.873	54.464	47.336	1.00	45.50	C	C
ATOM 2573	CD2	TYR	C	166	-47.712	56.491	48.236	1.00	45.50	C	C
ATOM 2574	CE1	TYR	C	166	-46.114	54.269	48.464	1.00	45.50	C	C
ATOM 2575	CE2	TYR	C	166	-46.955	56.300	49.368	1.00	45.50	C	C
ATOM 2576	CZ	TYR	C	166	-46.153	55.189	49.483	1.00	45.50	C	C
ATOM 2577	OH	TYR	C	166	-45.376	54.992	50.643	1.00	45.50	C	O
ATOM 2578	N	SER	C	167	-48.575	58.650	44.765	1.00	46.49	C	N
ATOM 2579	CA	SER	C	167	-48.516	60.073	44.957	1.00	46.49	C	C
ATOM 2580	C	SER	C	167	-49.892	60.579	45.256	1.00	46.49	C	C
ATOM 2581	O	SER	C	167	-50.878	60.120	44.679	1.00	46.49	C	O
ATOM 2582	CB	SER	C	167	-48.021	60.841	43.719	1.00	46.49	C	C
ATOM 2583	OG	SER	C	167	-48.956	60.709	42.659	1.00	46.49	C	O
ATOM 2584	N	GLN	C	168	-49.982	61.567	46.172	1.00	49.22	C	N
ATOM 2585	CA	GLN	C	168	-51.258	62.110	46.531	1.00	49.22	C	C
ATOM 2586	C	GLN	C	168	-51.101	63.587	46.721	1.00	49.22	C	C
ATOM 2587	O	GLN	C	168	-50.080	64.058	47.223	1.00	49.22	C	O
ATOM 2588	CB	GLN	C	168	-51.789	61.526	47.847	1.00	49.22	C	C
ATOM 2589	CG	GLN	C	168	-53.152	62.060	48.284	1.00	49.22	C	C
ATOM 2590	CD	GLN	C	168	-53.487	61.364	49.594	1.00	49.22	C	C
ATOM 2591	OE1	GLN	C	168	-52.824	61.586	50.602	1.00	49.22	C	O
ATOM 2592	NE2	GLN	C	168	-54.526	60.486	49.581	1.00	49.22	C	N
ATOM 2593	N	VAL	C	169	-52.123	64.360	46.305	1.00	51.74	C	N
ATOM 2594	CA	VAL	C	169	-52.085	65.786	46.458	1.00	51.74	C	C
ATOM 2595	C	VAL	C	169	-53.468	66.251	46.796	1.00	51.74	C	C
ATOM 2596	O	VAL	C	169	-54.453	65.720	46.286	1.00	51.74	C	O
ATOM 2597	CB	VAL	C	169	-51.654	66.476	45.201	1.00	51.74	C	C
ATOM 2598	CG1	VAL	C	169	-52.465	65.880	44.042	1.00	51.74	C	C
ATOM 2599	CG2	VAL	C	169	-51.858	67.993	45.368	1.00	51.74	C	C
ATOM 2600	N	LEU	C	170	-53.572	67.271	47.671	1.00	56.37	C	N
ATOM 2601	CA	LEU	C	170	-54.859	67.758	48.072	1.00	56.37	C	C
ATOM 2602	C	LEU	C	170	-55.158	68.952	47.218	1.00	56.37	C	C
ATOM 2603	O	LEU	C	170	-54.447	69.956	47.265	1.00	56.37	C	O
ATOM 2604	CB	LEU	C	170	-54.882	68.194	49.552	1.00	56.37	C	C
ATOM 2605	CG	LEU	C	170	-56.271	68.546	50.126	1.00	56.37	C	C
ATOM 2606	CD1	LEU	C	170	-56.883	69.783	49.457	1.00	56.37	C	C
ATOM 2607	CD2	LEU	C	170	-57.206	67.327	50.110	1.00	56.37	C	C
ATOM 2608	N	PHE	C	171	-56.239	68.878	46.416	1.00	60.65	C	N
ATOM 2609	CA	PHE	C	171	-56.552	69.958	45.526	1.00	60.65	C	C
ATOM 2610	C	PHE	C	171	-57.540	70.878	46.185	1.00	60.65	C	C
ATOM 2611	O	PHE	C	171	-58.634	70.468	46.569	1.00	60.65	C	O
ATOM 2612	CB	PHE	C	171	-57.174	69.497	44.199	1.00	60.65	C	C
ATOM 2613	CG	PHE	C	171	-56.154	68.690	43.473	1.00	60.65	C	C
ATOM 2614	CD1	PHE	C	171	-55.111	69.307	42.821	1.00	60.65	C	C
ATOM 2615	CD2	PHE	C	171	-56.247	67.318	43.433	1.00	60.65	C	C
ATOM 2616	CE1	PHE	C	171	-54.170	68.565	42.147	1.00	60.65	C	C
ATOM 2617	CE2	PHE	C	171	-55.310	66.571	42.760	1.00	60.65	C	C
ATOM 2618	CZ	PHE	C	171	-54.270	67.196	42.115	1.00	60.65	C	C
ATOM 2619	N	GLN	C	172	-57.096	72.129	46.431	1.00	67.06	C	N
ATOM 2620	CA	GLN	C	172	-57.863	73.234	46.945	1.00	67.06	C	C
ATOM 2621	C	GLN	C	172	-58.585	73.974	45.854	1.00	67.06	C	C
ATOM 2622	O	GLN	C	172	-59.450	74.795	46.139	1.00	67.06	C	O
ATOM 2623	CB	GLN	C	172	-57.045	74.256	47.762	1.00	67.06	C	C
ATOM 2624	CG	GLN	C	172	-56.042	75.083	46.963	1.00	67.06	C	C
ATOM 2625	CD	GLN	C	172	-55.338	76.026	47.927	1.00	67.06	C	C
ATOM 2626	OE1	GLN	C	172	-55.312	75.794	49.135	1.00	67.06	C	O
ATOM 2627	NE2	GLN	C	172	-54.746	77.122	47.379	1.00	67.06	C	N
ATOM 2628	N	ASP	C	173	-58.155	73.793	44.588	1.00	71.27	C	N
ATOM 2629	CA	ASP	C	173	-58.627	74.520	43.433	1.00	71.27	C	C
ATOM 2630	C	ASP	C	173	-60.079	74.227	43.133	1.00	71.27	C	C
ATOM 2631	O	ASP	C	173	-60.568	73.113	43.312	1.00	71.27	C	O
ATOM 2632	CB	ASP	C	173	-57.794	74.169	42.180	1.00	71.27	C	C
ATOM 2633	CG	ASP	C	173	-57.934	75.220	41.084	1.00	71.27	C	C
ATOM 2634	OD1	ASP	C	173	-59.074	75.661	40.790	1.00	71.27	C	O
ATOM 2635	OD2	ASP	C	173	-56.877	75.586	40.504	1.00	71.27	C	O
ATOM 2636	N	VAL	C	174	-60.799	75.288	42.710	1.00	71.57	C	N
ATOM 2637	CA	VAL	C	174	-62.183	75.380	42.314	1.00	71.57	C	C

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ATOM 2638	C	VAL	C 174	-62.448	74.806	40.944	1.00	71.57	C	C
ATOM 2639	O	VAL	C 174	-63.586	74.450	40.640	1.00	71.57	C	O
ATOM 2640	CB	VAL	C 174	-62.646	76.806	42.309	1.00	71.57	C	C
ATOM 2641	CG1	VAL	C 174	-64.088	76.887	41.782	1.00	71.57	C	C
ATOM 2642	CG2	VAL	C 174	-62.471	77.356	43.733	1.00	71.57	C	C
ATOM 2643	N	THR	C 175	-61.421	74.744	40.071	1.00	70.41	C	N
ATOM 2644	CA	THR	C 175	-61.527	74.354	38.686	1.00	70.41	C	C
ATOM 2645	C	THR	C 175	-62.377	73.132	38.570	1.00	70.41	C	C
ATOM 2646	O	THR	C 175	-62.495	72.346	39.506	1.00	70.41	C	O
ATOM 2647	CB	THR	C 175	-60.202	73.965	38.102	1.00	70.41	C	C
ATOM 2648	OG1	THR	C 175	-59.250	74.990	38.303	1.00	70.41	C	O
ATOM 2649	CG2	THR	C 175	-60.377	73.746	36.598	1.00	70.41	C	C
ATOM 2650	N	PHE	C 176	-62.968	72.927	37.375	1.00	61.11	C	N
ATOM 2651	CA	PHE	C 176	-63.881	71.845	37.183	1.00	61.11	C	C
ATOM 2652	C	PHE	C 176	-63.201	70.565	37.547	1.00	61.11	C	C
ATOM 2653	O	PHE	C 176	-63.781	69.746	38.258	1.00	61.11	C	O
ATOM 2654	CB	PHE	C 176	-64.411	71.754	35.742	1.00	61.11	C	C
ATOM 2655	CG	PHE	C 176	-63.257	71.623	34.810	1.00	61.11	C	C
ATOM 2656	CD1	PHE	C 176	-62.590	72.742	34.366	1.00	61.11	C	C
ATOM 2657	CD2	PHE	C 176	-62.845	70.386	34.377	1.00	61.11	C	C
ATOM 2658	CE1	PHE	C 176	-61.526	72.630	33.503	1.00	61.11	C	C
ATOM 2659	CE2	PHE	C 176	-61.782	70.269	33.512	1.00	61.11	C	C
ATOM 2660	CZ	PHE	C 176	-61.119	71.390	33.074	1.00	61.11	C	C
ATOM 2661	N	THR	C 177	-61.957	70.339	37.084	1.00	51.28	C	N
ATOM 2662	CA	THR	C 177	-61.324	69.120	37.497	1.00	51.28	C	C
ATOM 2663	C	THR	C 177	-59.878	69.385	37.771	1.00	51.28	C	C
ATOM 2664	O	THR	C 177	-59.269	70.272	37.176	1.00	51.28	C	O
ATOM 2665	CB	THR	C 177	-61.373	68.030	36.467	1.00	51.28	C	C
ATOM 2666	OG1	THR	C 177	-60.989	66.792	37.048	1.00	51.28	C	O
ATOM 2667	CG2	THR	C 177	-60.411	68.392	35.325	1.00	51.28	C	C
ATOM 2668	N	MET	C 178	-59.289	68.600	38.696	1.00	42.34	C	N
ATOM 2669	CA	MET	C 178	-57.898	68.758	39.018	1.00	42.34	C	C
ATOM 2670	C	MET	C 178	-57.305	67.384	39.099	1.00	42.34	C	C
ATOM 2671	O	MET	C 178	-58.030	66.395	39.181	1.00	42.34	C	O
ATOM 2672	CB	MET	C 178	-57.653	69.454	40.368	1.00	42.34	C	C
ATOM 2673	CG	MET	C 178	-58.095	70.918	40.383	1.00	42.34	C	C
ATOM 2674	SD	MET	C 178	-57.135	72.007	39.289	1.00	42.34	C	S
ATOM 2675	CE	MET	C 178	-55.685	72.102	40.377	1.00	42.34	C	C
ATOM 2676	N	GLY	C 179	-55.960	67.281	39.048	1.00	35.34	C	N
ATOM 2677	CA	GLY	C 179	-55.347	65.986	39.126	1.00	35.34	C	C
ATOM 2678	C	GLY	C 179	-53.877	66.129	38.887	1.00	35.34	C	C
ATOM 2679	O	GLY	C 179	-53.388	67.207	38.550	1.00	35.34	C	O
ATOM 2680	N	GLN	C 180	-53.127	65.018	39.055	1.00	34.51	C	N
ATOM 2681	CA	GLN	C 180	-51.705	65.084	38.881	1.00	34.51	C	C
ATOM 2682	C	GLN	C 180	-51.255	63.903	38.090	1.00	34.51	C	C
ATOM 2683	O	GLN	C 180	-51.984	62.926	37.919	1.00	34.51	C	O
ATOM 2684	CB	GLN	C 180	-50.941	65.070	40.216	1.00	34.51	C	C
ATOM 2685	CG	GLN	C 180	-51.130	63.776	41.010	1.00	34.51	C	C
ATOM 2686	CD	GLN	C 180	-50.417	63.934	42.346	1.00	34.51	C	C
ATOM 2687	OE1	GLN	C 180	-50.340	62.997	43.139	1.00	34.51	C	O
ATOM 2688	NE2	GLN	C 180	-49.883	65.157	42.606	1.00	34.51	C	N
ATOM 2689	N	VAL	C 181	-50.024	63.986	37.553	1.00	37.80	C	N
ATOM 2690	CA	VAL	C 181	-49.503	62.890	36.797	1.00	37.80	C	C
ATOM 2691	C	VAL	C 181	-48.229	62.463	37.443	1.00	37.80	C	C
ATOM 2692	O	VAL	C 181	-47.381	63.288	37.783	1.00	37.80	C	O
ATOM 2693	CB	VAL	C 181	-49.188	63.246	35.374	1.00	37.80	C	C
ATOM 2694	CG1	VAL	C 181	-50.497	63.636	34.667	1.00	37.80	C	C
ATOM 2695	CG2	VAL	C 181	-48.126	64.360	35.368	1.00	37.80	C	C
ATOM 2696	N	VAL	C 182	-48.077	61.145	37.667	1.00	42.17	C	N
ATOM 2697	CA	VAL	C 182	-46.813	60.696	38.153	1.00	42.17	C	C
ATOM 2698	C	VAL	C 182	-46.117	60.242	36.914	1.00	42.17	C	C
ATOM 2699	O	VAL	C 182	-46.535	59.294	36.250	1.00	42.17	C	O
ATOM 2700	CB	VAL	C 182	-46.884	59.601	39.184	1.00	42.17	C	C
ATOM 2701	CG1	VAL	C 182	-47.533	58.332	38.603	1.00	42.17	C	C
ATOM 2702	CG2	VAL	C 182	-45.463	59.409	39.733	1.00	42.17	C	C
ATOM 2703	N	SER	C 183	-45.027	60.935	36.545	1.00	45.27	C	N

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ATOM 2704	CA	SER	C	183	-44.443	60.636	35.272	1.00	45.27	C	C
ATOM 2705	C	SER	C	183	-43.056	60.120	35.438	1.00	45.27	C	C
ATOM 2706	O	SER	C	183	-42.436	60.266	36.492	1.00	45.27	C	O
ATOM 2707	CB	SER	C	183	-44.367	61.857	34.339	1.00	45.27	C	C
ATOM 2708	OG	SER	C	183	-45.673	62.319	34.031	1.00	45.27	C	O
ATOM 2709	N	ARG	C	184	-42.543	59.459	34.378	1.00	48.52	C	N
ATOM 2710	CA	ARG	C	184	-41.199	58.982	34.453	1.00	48.52	C	C
ATOM 2711	C	ARG	C	184	-40.384	59.664	33.410	1.00	48.52	C	C
ATOM 2712	O	ARG	C	184	-40.758	59.718	32.239	1.00	48.52	C	O
ATOM 2713	CB	ARG	C	184	-41.014	57.467	34.242	1.00	48.52	C	C
ATOM 2714	CG	ARG	C	184	-41.403	56.942	32.863	1.00	48.52	C	C
ATOM 2715	CD	ARG	C	184	-41.354	55.416	32.775	1.00	48.52	C	C
ATOM 2716	NE	ARG	C	184	-39.926	54.990	32.795	1.00	48.52	C	N
ATOM 2717	CZ	ARG	C	184	-39.276	54.785	31.614	1.00	48.52	C	C
ATOM 2718	NH1	ARG	C	184	-39.923	55.022	30.435	1.00	48.52	C	N
ATOM 2719	NH2	ARG	C	184	-37.987	54.336	31.606	1.00	48.52	C	N
ATOM 2720	N	GLU	C	185	-39.237	60.228	33.834	1.00	48.59	C	N
ATOM 2721	CA	GLU	C	185	-38.329	60.797	32.887	1.00	48.59	C	C
ATOM 2722	C	GLU	C	185	-37.379	59.691	32.621	1.00	48.59	C	C
ATOM 2723	O	GLU	C	185	-36.538	59.358	33.456	1.00	48.59	C	O
ATOM 2724	CB	GLU	C	185	-37.519	61.988	33.430	1.00	48.59	C	C
ATOM 2725	CG	GLU	C	185	-38.371	63.227	33.705	1.00	48.59	C	C
ATOM 2726	CD	GLU	C	185	-38.896	63.740	32.371	1.00	48.59	C	C
ATOM 2727	OE1	GLU	C	185	-38.587	63.103	31.329	1.00	48.59	C	O
ATOM 2728	OE2	GLU	C	185	-39.615	64.775	32.377	1.00	48.59	C	O
ATOM 2729	N	GLY	C	186	-37.496	59.080	31.435	1.00	50.68	C	N
ATOM 2730	CA	GLY	C	186	-36.685	57.935	31.201	1.00	50.68	C	C
ATOM 2731	C	GLY	C	186	-35.340	58.352	30.753	1.00	50.68	C	C
ATOM 2732	O	GLY	C	186	-35.106	59.484	30.330	1.00	50.68	C	O
ATOM 2733	N	GLN	C	187	-34.423	57.367	30.797	1.00	55.20	C	N
ATOM 2734	CA	GLN	C	187	-33.145	57.536	30.195	1.00	55.20	C	C
ATOM 2735	C	GLN	C	187	-33.558	57.706	28.774	1.00	55.20	C	C
ATOM 2736	O	GLN	C	187	-32.948	58.447	28.006	1.00	55.20	C	O
ATOM 2737	CB	GLN	C	187	-32.250	56.287	30.283	1.00	55.20	C	C
ATOM 2738	CG	GLN	C	187	-32.791	55.079	29.513	1.00	55.20	C	C
ATOM 2739	CD	GLN	C	187	-33.962	54.503	30.295	1.00	55.20	C	C
ATOM 2740	OE1	GLN	C	187	-33.825	54.140	31.461	1.00	55.20	C	O
ATOM 2741	NE2	GLN	C	187	-35.149	54.419	29.638	1.00	55.20	C	N
ATOM 2742	N	GLY	C	188	-34.654	56.994	28.427	1.00	56.44	C	N
ATOM 2743	CA	GLY	C	188	-35.351	57.103	27.185	1.00	56.44	C	C
ATOM 2744	C	GLY	C	188	-36.290	58.282	27.334	1.00	56.44	C	C
ATOM 2745	O	GLY	C	188	-35.894	59.310	27.878	1.00	56.44	C	O
ATOM 2746	N	ARG	C	189	-37.550	58.174	26.843	1.00	56.19	C	N
ATOM 2747	CA	ARG	C	189	-38.506	59.266	26.833	1.00	56.19	C	C
ATOM 2748	C	ARG	C	189	-39.283	59.361	28.127	1.00	56.19	C	C
ATOM 2749	O	ARG	C	189	-39.162	58.516	29.013	1.00	56.19	C	O
ATOM 2750	CB	ARG	C	189	-39.517	59.161	25.675	1.00	56.19	C	C
ATOM 2751	CG	ARG	C	189	-40.359	60.423	25.461	1.00	56.19	C	C
ATOM 2752	CD	ARG	C	189	-41.319	60.329	24.271	1.00	56.19	C	C
ATOM 2753	NE	ARG	C	189	-42.488	59.511	24.694	1.00	56.19	C	N
ATOM 2754	CZ	ARG	C	189	-43.550	60.109	25.311	1.00	56.19	C	C
ATOM 2755	NH1	ARG	C	189	-43.537	61.454	25.538	1.00	56.19	C	N
ATOM 2756	NH2	ARG	C	189	-44.623	59.360	25.699	1.00	56.19	C	N
ATOM 2757	N	GLN	C	190	-40.085	60.451	28.270	1.00	52.24	C	N
ATOM 2758	CA	GLN	C	190	-40.885	60.702	29.444	1.00	52.24	C	C
ATOM 2759	C	GLN	C	190	-42.300	60.302	29.171	1.00	52.24	C	C
ATOM 2760	O	GLN	C	190	-42.856	60.606	28.119	1.00	52.24	C	O
ATOM 2761	CB	GLN	C	190	-40.878	62.180	29.887	1.00	52.24	C	C
ATOM 2762	CG	GLN	C	190	-41.513	63.151	28.886	1.00	52.24	C	C
ATOM 2763	CD	GLN	C	190	-43.020	63.161	29.105	1.00	52.24	C	C
ATOM 2764	OE1	GLN	C	190	-43.800	63.106	28.155	1.00	52.24	C	O
ATOM 2765	NE2	GLN	C	190	-43.446	63.240	30.395	1.00	52.24	C	N
ATOM 2766	N	GLU	C	191	-42.914	59.579	30.129	1.00	45.63	C	N
ATOM 2767	CA	GLU	C	191	-44.275	59.151	29.979	1.00	45.63	C	C
ATOM 2768	C	GLU	C	191	-44.909	59.228	31.330	1.00	45.63	C	C
ATOM 2769	O	GLU	C	191	-44.215	59.311	32.341	1.00	45.63	C	O

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Figure 10-43

ATOM 2770	CB	GLU	C	191	-44.406	57.703	29.477	1.00	45.63	C	C
ATOM 2771	CG	GLU	C	191	-45.840	57.285	29.146	1.00	45.63	C	C
ATOM 2772	CD	GLU	C	191	-45.804	55.841	28.665	1.00	45.63	C	C
ATOM 2773	OE1	GLU	C	191	-44.725	55.203	28.793	1.00	45.63	C	O
ATOM 2774	OE2	GLU	C	191	-46.852	55.357	28.161	1.00	45.63	C	O
ATOM 2775	N	THR	C	192	-46.257	59.213	31.388	1.00	41.18	C	N
ATOM 2776	CA	THR	C	192	-46.902	59.301	32.668	1.00	41.18	C	C
ATOM 2777	C	THR	C	192	-47.353	57.927	33.047	1.00	41.18	C	C
ATOM 2778	O	THR	C	192	-48.126	57.292	32.330	1.00	41.18	C	O
ATOM 2779	CB	THR	C	192	-48.120	60.178	32.681	1.00	41.18	C	C
ATOM 2780	OG1	THR	C	192	-49.143	59.618	31.870	1.00	41.18	C	O
ATOM 2781	CG2	THR	C	192	-47.731	61.569	32.155	1.00	41.18	C	C
ATOM 2782	N	LEU	C	193	-46.826	57.415	34.177	1.00	40.86	C	N
ATOM 2783	CA	LEU	C	193	-47.171	56.102	34.638	1.00	40.86	C	C
ATOM 2784	C	LEU	C	193	-48.595	56.060	35.099	1.00	40.86	C	C
ATOM 2785	O	LEU	C	193	-49.372	55.220	34.648	1.00	40.86	C	O
ATOM 2786	CB	LEU	C	193	-46.292	55.646	35.816	1.00	40.86	C	C
ATOM 2787	CG	LEU	C	193	-44.801	55.497	35.450	1.00	40.86	C	C
ATOM 2788	CD1	LEU	C	193	-44.190	56.837	35.016	1.00	40.86	C	C
ATOM 2789	CD2	LEU	C	193	-44.011	54.841	36.591	1.00	40.86	C	C
ATOM 2790	N	PHE	C	194	-48.986	56.991	35.994	1.00	41.35	C	N
ATOM 2791	CA	PHE	C	194	-50.323	56.940	36.514	1.00	41.35	C	C
ATOM 2792	C	PHE	C	194	-50.787	58.352	36.685	1.00	41.35	C	C
ATOM 2793	O	PHE	C	194	-49.976	59.269	36.794	1.00	41.35	C	O
ATOM 2794	CB	PHE	C	194	-50.404	56.285	37.903	1.00	41.35	C	C
ATOM 2795	CG	PHE	C	194	-49.769	54.939	37.801	1.00	41.35	C	C
ATOM 2796	CD1	PHE	C	194	-50.479	53.850	37.356	1.00	41.35	C	C
ATOM 2797	CD2	PHE	C	194	-48.444	54.777	38.140	1.00	41.35	C	C
ATOM 2798	CE1	PHE	C	194	-49.879	52.615	37.264	1.00	41.35	C	C
ATOM 2799	CE2	PHE	C	194	-47.839	53.546	38.052	1.00	41.35	C	C
ATOM 2800	CZ	PHE	C	194	-48.558	52.461	37.611	1.00	41.35	C	C
ATOM 2801	N	ARG	C	195	-52.120	58.565	36.706	1.00	42.11	C	N
ATOM 2802	CA	ARG	C	195	-52.626	59.897	36.872	1.00	42.11	C	C
ATOM 2803	C	ARG	C	195	-53.821	59.841	37.768	1.00	42.11	C	C
ATOM 2804	O	ARG	C	195	-54.458	58.798	37.912	1.00	42.11	C	O
ATOM 2805	CB	ARG	C	195	-53.050	60.564	35.551	1.00	42.11	C	C
ATOM 2806	CG	ARG	C	195	-54.141	59.807	34.792	1.00	42.11	C	C
ATOM 2807	CD	ARG	C	195	-54.481	60.438	33.440	1.00	42.11	C	C
ATOM 2808	NE	ARG	C	195	-55.549	59.609	32.810	1.00	42.11	C	N
ATOM 2809	CZ	ARG	C	195	-56.864	59.870	33.074	1.00	42.11	C	C
ATOM 2810	NH1	ARG	C	195	-57.204	60.899	33.904	1.00	42.11	C	N
ATOM 2811	NH2	ARG	C	195	-57.838	59.100	32.505	1.00	42.11	C	N
ATOM 2812	N	CYS	C	196	-54.144	60.981	38.414	1.00	42.45	C	N
ATOM 2813	CA	CYS	C	196	-55.260	61.014	39.312	1.00	42.45	C	C
ATOM 2814	C	CYS	C	196	-56.089	62.193	38.895	1.00	42.45	C	C
ATOM 2815	O	CYS	C	196	-55.549	63.233	38.519	1.00	42.45	C	O
ATOM 2816	CB	CYS	C	196	-54.794	61.198	40.771	1.00	42.45	C	C
ATOM 2817	SG	CYS	C	196	-55.935	60.531	42.019	1.00	42.45	C	S
ATOM 2818	N	ILE	C	197	-57.431	62.051	38.896	1.00	39.20	C	N
ATOM 2819	CA	ILE	C	197	-58.261	63.157	38.502	1.00	39.20	C	C
ATOM 2820	C	ILE	C	197	-59.414	63.251	39.449	1.00	39.20	C	C
ATOM 2821	O	ILE	C	197	-59.977	62.235	39.856	1.00	39.20	C	O
ATOM 2822	CB	ILE	C	197	-58.832	63.014	37.123	1.00	39.20	C	C
ATOM 2823	CG1	ILE	C	197	-59.499	64.327	36.680	1.00	39.20	C	C
ATOM 2824	CG2	ILE	C	197	-59.779	61.803	37.128	1.00	39.20	C	C
ATOM 2825	CD1	ILE	C	197	-58.516	65.483	36.504	1.00	39.20	C	C
ATOM 2826	N	ARG	C	198	-59.795	64.487	39.836	1.00	37.08	C	N
ATOM 2827	CA	ARG	C	198	-60.909	64.628	40.725	1.00	37.08	C	C
ATOM 2828	C	ARG	C	198	-61.694	65.833	40.313	1.00	37.08	C	C
ATOM 2829	O	ARG	C	198	-61.129	66.872	39.976	1.00	37.08	C	O
ATOM 2830	CB	ARG	C	198	-60.498	64.836	42.193	1.00	37.08	C	C
ATOM 2831	CG	ARG	C	198	-61.683	64.913	43.156	1.00	37.08	C	C
ATOM 2832	CD	ARG	C	198	-62.436	63.589	43.297	1.00	37.08	C	C
ATOM 2833	NE	ARG	C	198	-61.482	62.591	43.858	1.00	37.08	C	N
ATOM 2834	CZ	ARG	C	198	-61.911	61.330	44.159	1.00	37.08	C	C
ATOM 2835	NH1	ARG	C	198	-63.215	60.985	43.949	1.00	37.08	C	N

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Figure 10-44

ATOM 2836	NH2	ARG	C	198	-61.036	60.415	44.669	1.00	37.08	C	N
ATOM 2837	N	SER	C	199	-63.037	65.716	40.324	1.00	34.75	C	N
ATOM 2838	CA	SER	C	199	-63.848	66.848	39.988	1.00	34.75	C	C
ATOM 2839	C	SER	C	199	-63.847	67.734	41.187	1.00	34.75	C	C
ATOM 2840	O	SER	C	199	-63.773	67.261	42.319	1.00	34.75	C	O
ATOM 2841	CB	SER	C	199	-65.312	66.497	39.670	1.00	34.75	C	C
ATOM 2842	OG	SER	C	199	-66.037	67.675	39.349	1.00	34.75	C	O
ATOM 2843	N	MET	C	200	-63.942	69.057	40.966	1.00	33.48	C	N
ATOM 2844	CA	MET	C	200	-63.897	69.980	42.066	1.00	33.48	C	C
ATOM 2845	C	MET	C	200	-65.208	70.699	42.111	1.00	33.48	C	C
ATOM 2846	O	MET	C	200	-65.812	70.994	41.081	1.00	33.48	C	O
ATOM 2847	CB	MET	C	200	-62.816	71.066	41.918	1.00	33.48	C	C
ATOM 2848	CG	MET	C	200	-61.369	70.553	41.913	1.00	33.48	C	C
ATOM 2849	SD	MET	C	200	-60.756	69.908	43.500	1.00	33.48	C	S
ATOM 2850	CE	MET	C	200	-61.397	68.224	43.284	1.00	33.48	C	C
ATOM 2851	N	PRO	C	201	-65.654	70.965	43.308	1.00	34.55	C	N
ATOM 2852	CA	PRO	C	201	-66.878	71.688	43.531	1.00	34.55	C	C
ATOM 2853	C	PRO	C	201	-66.651	73.144	43.286	1.00	34.55	C	C
ATOM 2854	O	PRO	C	201	-65.499	73.555	43.161	1.00	34.55	C	O
ATOM 2855	CB	PRO	C	201	-67.309	71.360	44.962	1.00	34.55	C	C
ATOM 2856	CG	PRO	C	201	-66.063	70.738	45.617	1.00	34.55	C	C
ATOM 2857	CD	PRO	C	201	-65.309	70.116	44.435	1.00	34.55	C	C
ATOM 2858	N	SER	C	202	-67.734	73.946	43.226	1.00	35.65	C	N
ATOM 2859	CA	SER	C	202	-67.591	75.341	42.932	1.00	35.65	C	C
ATOM 2860	C	SER	C	202	-66.665	75.936	43.941	1.00	35.65	C	C
ATOM 2861	O	SER	C	202	-66.344	75.310	44.950	1.00	35.65	C	O
ATOM 2862	CB	SER	C	202	-68.914	76.125	42.989	1.00	35.65	C	C
ATOM 2863	OG	SER	C	202	-68.682	77.493	42.687	1.00	35.65	C	O
ATOM 2864	N	HIS	C	203	-66.184	77.163	43.659	1.00	37.84	C	N
ATOM 2865	CA	HIS	C	203	-65.275	77.840	44.539	1.00	37.84	C	C
ATOM 2866	C	HIS	C	203	-65.960	78.038	45.850	1.00	37.84	C	C
ATOM 2867	O	HIS	C	203	-65.354	77.833	46.900	1.00	37.84	C	O
ATOM 2868	CB	HIS	C	203	-64.827	79.220	44.015	1.00	37.84	C	C
ATOM 2869	CG	HIS	C	203	-63.975	79.982	44.992	1.00	37.84	C	C
ATOM 2870	ND1	HIS	C	203	-62.607	79.871	45.096	1.00	37.84	C	N
ATOM 2871	CD2	HIS	C	203	-64.345	80.892	45.935	1.00	37.84	C	C
ATOM 2872	CE1	HIS	C	203	-62.220	80.713	46.088	1.00	37.84	C	C
ATOM 2873	NE2	HIS	C	203	-63.241	81.354	46.627	1.00	37.84	C	N
ATOM 2874	N	PRO	C	204	-67.203	78.426	45.842	1.00	38.77	C	N
ATOM 2875	CA	PRO	C	204	-67.886	78.576	47.091	1.00	38.77	C	C
ATOM 2876	C	PRO	C	204	-68.081	77.226	47.688	1.00	38.77	C	C
ATOM 2877	O	PRO	C	204	-68.433	77.141	48.863	1.00	38.77	C	O
ATOM 2878	CB	PRO	C	204	-69.181	79.317	46.773	1.00	38.77	C	C
ATOM 2879	CG	PRO	C	204	-68.823	80.148	45.529	1.00	38.77	C	C
ATOM 2880	CD	PRO	C	204	-67.735	79.324	44.826	1.00	38.77	C	C
ATOM 2881	N	ASP	C	205	-67.865	76.158	46.898	1.00	39.11	C	N
ATOM 2882	CA	ASP	C	205	-68.127	74.854	47.416	1.00	39.11	C	C
ATOM 2883	C	ASP	C	205	-66.951	74.355	48.185	1.00	39.11	C	C
ATOM 2884	O	ASP	C	205	-66.839	73.146	48.383	1.00	39.11	C	O
ATOM 2885	CB	ASP	C	205	-68.440	73.820	46.321	1.00	39.11	C	C
ATOM 2886	CG	ASP	C	205	-69.824	74.127	45.767	1.00	39.11	C	C
ATOM 2887	OD1	ASP	C	205	-70.505	75.020	46.337	1.00	39.11	C	O
ATOM 2888	OD2	ASP	C	205	-70.220	73.465	44.771	1.00	39.11	C	O
ATOM 2889	N	ARG	C	206	-66.080	75.277	48.658	1.00	38.97	C	N
ATOM 2890	CA	ARG	C	206	-64.943	74.952	49.481	1.00	38.97	C	C
ATOM 2891	C	ARG	C	206	-64.251	73.759	48.913	1.00	38.97	C	C
ATOM 2892	O	ARG	C	206	-64.276	72.684	49.510	1.00	38.97	C	O
ATOM 2893	CB	ARG	C	206	-65.323	74.638	50.939	1.00	38.97	C	C
ATOM 2894	CG	ARG	C	206	-65.978	75.818	51.659	1.00	38.97	C	C
ATOM 2895	CD	ARG	C	206	-64.980	76.829	52.227	1.00	38.97	C	C
ATOM 2896	NE	ARG	C	206	-65.769	77.905	52.890	1.00	38.97	C	N
ATOM 2897	CZ	ARG	C	206	-65.201	78.672	53.865	1.00	38.97	C	C
ATOM 2898	NH1	ARG	C	206	-63.910	78.445	54.246	1.00	38.97	C	N
ATOM 2899	NH2	ARG	C	206	-65.923	79.666	54.460	1.00	38.97	C	N
ATOM 2900	N	ALA	C	207	-63.645	73.901	47.723	1.00	37.60	C	N
ATOM 2901	CA	ALA	C	207	-63.055	72.744	47.122	1.00	37.60	C	C

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Figure 10-45

ATOM 2902	C	ALA	C	207	-62.014	72.194	48.038	1.00	37.60	C	C
ATOM 2903	O	ALA	C	207	-61.077	72.888	48.426	1.00	37.60	C	O
ATOM 2904	CB	ALA	C	207	-62.386	73.032	45.767	1.00	37.60	C	C
ATOM 2905	N	TYR	C	208	-62.206	70.928	48.463	1.00	38.50	C	N
ATOM 2906	CA	TYR	C	208	-61.203	70.224	49.201	1.00	38.50	C	C
ATOM 2907	C	TYR	C	208	-61.278	68.798	48.762	1.00	38.50	C	C
ATOM 2908	O	TYR	C	208	-62.186	68.071	49.165	1.00	38.50	C	O
ATOM 2909	CB	TYR	C	208	-61.400	70.247	50.729	1.00	38.50	C	C
ATOM 2910	CG	TYR	C	208	-61.134	71.633	51.211	1.00	38.50	C	C
ATOM 2911	CD1	TYR	C	208	-62.126	72.585	51.205	1.00	38.50	C	C
ATOM 2912	CD2	TYR	C	208	-59.886	71.982	51.674	1.00	38.50	C	C
ATOM 2913	CE1	TYR	C	208	-61.882	73.862	51.649	1.00	38.50	C	C
ATOM 2914	CE2	TYR	C	208	-59.633	73.258	52.120	1.00	38.50	C	C
ATOM 2915	CZ	TYR	C	208	-60.632	74.201	52.108	1.00	38.50	C	C
ATOM 2916	OH	TYR	C	208	-60.377	75.511	52.566	1.00	38.50	C	O
ATOM 2917	N	ASN	C	209	-60.326	68.340	47.927	1.00	40.97	C	N
ATOM 2918	CA	ASN	C	209	-60.378	66.967	47.523	1.00	40.97	C	C
ATOM 2919	C	ASN	C	209	-58.977	66.476	47.395	1.00	40.97	C	C
ATOM 2920	O	ASN	C	209	-58.143	67.115	46.758	1.00	40.97	C	O
ATOM 2921	CB	ASN	C	209	-61.053	66.731	46.159	1.00	40.97	C	C
ATOM 2922	CG	ASN	C	209	-62.552	66.946	46.314	1.00	40.97	C	C
ATOM 2923	OD1	ASN	C	209	-63.164	67.705	45.565	1.00	40.97	C	O
ATOM 2924	ND2	ASN	C	209	-63.165	66.249	47.308	1.00	40.97	C	N
ATOM 2925	N	SER	C	210	-58.685	65.304	47.987	1.00	43.32	C	N
ATOM 2926	CA	SER	C	210	-57.367	64.759	47.879	1.00	43.32	C	C
ATOM 2927	C	SER	C	210	-57.455	63.674	46.856	1.00	43.32	C	C
ATOM 2928	O	SER	C	210	-58.515	63.081	46.666	1.00	43.32	C	O
ATOM 2929	CB	SER	C	210	-56.842	64.135	49.184	1.00	43.32	C	C
ATOM 2930	OG	SER	C	210	-57.641	63.018	49.548	1.00	43.32	C	O
ATOM 2931	N	CYS	C	211	-56.346	63.406	46.137	1.00	46.49	C	N
ATOM 2932	CA	CYS	C	211	-56.416	62.403	45.114	1.00	46.49	C	C
ATOM 2933	C	CYS	C	211	-55.212	61.526	45.300	1.00	46.49	C	C
ATOM 2934	O	CYS	C	211	-54.091	62.016	45.429	1.00	46.49	C	O
ATOM 2935	CB	CYS	C	211	-56.368	63.029	43.705	1.00	46.49	C	C
ATOM 2936	SG	CYS	C	211	-57.200	62.055	42.415	1.00	46.49	C	S
ATOM 2937	N	TYR	C	212	-55.422	60.193	45.331	1.00	44.78	C	N
ATOM 2938	CA	TYR	C	212	-54.354	59.258	45.574	1.00	44.78	C	C
ATOM 2939	C	TYR	C	212	-54.339	58.254	44.460	1.00	44.78	C	C
ATOM 2940	O	TYR	C	212	-55.387	57.772	44.034	1.00	44.78	C	O
ATOM 2941	CB	TYR	C	212	-54.600	58.494	46.891	1.00	44.78	C	C
ATOM 2942	CG	TYR	C	212	-53.631	57.375	47.071	1.00	44.78	C	C
ATOM 2943	CD1	TYR	C	212	-53.898	56.144	46.516	1.00	44.78	C	C
ATOM 2944	CD2	TYR	C	212	-52.471	57.541	47.793	1.00	44.78	C	C
ATOM 2945	CE1	TYR	C	212	-53.027	55.092	46.677	1.00	44.78	C	C
ATOM 2946	CE2	TYR	C	212	-51.596	56.492	47.958	1.00	44.78	C	C
ATOM 2947	CZ	TYR	C	212	-51.873	55.266	47.401	1.00	44.78	C	C
ATOM 2948	OH	TYR	C	212	-50.978	54.188	47.570	1.00	44.78	C	O
ATOM 2949	N	SER	C	213	-53.138	57.923	43.946	1.00	38.20	C	N
ATOM 2950	CA	SER	C	213	-53.033	56.932	42.912	1.00	38.20	C	C
ATOM 2951	C	SER	C	213	-51.707	56.261	43.073	1.00	38.20	C	C
ATOM 2952	O	SER	C	213	-50.731	56.891	43.479	1.00	38.20	C	O
ATOM 2953	CB	SER	C	213	-53.081	57.521	41.493	1.00	38.20	C	C
ATOM 2954	OG	SER	C	213	-52.974	56.482	40.529	1.00	38.20	C	O
ATOM 2955	N	ALA	C	214	-51.637	54.950	42.761	1.00	32.33	C	N
ATOM 2956	CA	ALA	C	214	-50.396	54.246	42.912	1.00	32.33	C	C
ATOM 2957	C	ALA	C	214	-50.370	53.139	41.911	1.00	32.33	C	C
ATOM 2958	O	ALA	C	214	-51.405	52.741	41.380	1.00	32.33	C	O
ATOM 2959	CB	ALA	C	214	-50.222	53.606	44.299	1.00	32.33	C	C
ATOM 2960	N	GLY	C	215	-49.163	52.617	41.621	1.00	26.56	C	N
ATOM 2961	CA	GLY	C	215	-49.053	51.547	40.675	1.00	26.56	C	C
ATOM 2962	C	GLY	C	215	-47.664	51.007	40.758	1.00	26.56	C	C
ATOM 2963	O	GLY	C	215	-46.815	51.541	41.470	1.00	26.56	C	O
ATOM 2964	N	VAL	C	216	-47.403	49.912	40.019	1.00	26.90	C	N
ATOM 2965	CA	VAL	C	216	-46.100	49.317	40.029	1.00	26.90	C	C
ATOM 2966	C	VAL	C	216	-45.532	49.497	38.659	1.00	26.90	C	C
ATOM 2967	O	VAL	C	216	-46.248	49.393	37.664	1.00	26.90	C	O

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ATOM 2968	CB	VAL	C	216	-46.130	47.845	40.319	1.00	26.90	C	C
ATOM 2969	CG1	VAL	C	216	-46.909	47.143	39.195	1.00	26.90	C	C
ATOM 2970	CG2	VAL	C	216	-44.686	47.346	40.483	1.00	26.90	C	C
ATOM 2971	N	PHE	C	217	-44.223	49.807	38.575	1.00	30.85	C	N
ATOM 2972	CA	PHE	C	217	-43.627	49.987	37.285	1.00	30.85	C	C
ATOM 2973	C	PHE	C	217	-42.197	49.571	37.400	1.00	30.85	C	C
ATOM 2974	O	PHE	C	217	-41.606	49.627	38.478	1.00	30.85	C	O
ATOM 2975	CB	PHE	C	217	-43.662	51.454	36.818	1.00	30.85	C	C
ATOM 2976	CG	PHE	C	217	-43.234	51.518	35.392	1.00	30.85	C	C
ATOM 2977	CD1	PHE	C	217	-44.119	51.188	34.391	1.00	30.85	C	C
ATOM 2978	CD2	PHE	C	217	-41.964	51.922	35.051	1.00	30.85	C	C
ATOM 2979	CE1	PHE	C	217	-43.742	51.247	33.071	1.00	30.85	C	C
ATOM 2980	CE2	PHE	C	217	-41.582	51.985	33.731	1.00	30.85	C	C
ATOM 2981	CZ	PHE	C	217	-42.470	51.646	32.739	1.00	30.85	C	C
ATOM 2982	N	HIS	C	218	-41.597	49.130	36.278	1.00	33.56	C	N
ATOM 2983	CA	HIS	C	218	-40.223	48.723	36.320	1.00	33.56	C	C
ATOM 2984	C	HIS	C	218	-39.425	49.893	35.849	1.00	33.56	C	C
ATOM 2985	O	HIS	C	218	-39.608	50.363	34.726	1.00	33.56	C	O
ATOM 2986	CB	HIS	C	218	-39.909	47.540	35.389	1.00	33.56	C	C
ATOM 2987	CG	HIS	C	218	-38.474	47.109	35.426	1.00	33.56	C	C
ATOM 2988	ND1	HIS	C	218	-37.949	46.247	36.367	1.00	33.56	C	N
ATOM 2989	CD2	HIS	C	218	-37.439	47.437	34.607	1.00	33.56	C	C
ATOM 2990	CE1	HIS	C	218	-36.634	46.099	36.071	1.00	33.56	C	C
ATOM 2991	NE2	HIS	C	218	-36.276	46.801	35.010	1.00	33.56	C	N
ATOM 2992	N	LEU	C	219	-38.523	50.403	36.711	1.00	36.08	C	N
ATOM 2993	CA	LEU	C	219	-37.748	51.545	36.324	1.00	36.08	C	C
ATOM 2994	C	LEU	C	219	-36.334	51.120	36.099	1.00	36.08	C	C
ATOM 2995	O	LEU	C	219	-35.860	50.143	36.677	1.00	36.08	C	O
ATOM 2996	CB	LEU	C	219	-37.715	52.699	37.345	1.00	36.08	C	C
ATOM 2997	CG	LEU	C	219	-39.095	53.284	37.710	1.00	36.08	C	C
ATOM 2998	CD1	LEU	C	219	-39.924	53.600	36.455	1.00	36.08	C	C
ATOM 2999	CD2	LEU	C	219	-39.833	52.432	38.750	1.00	36.08	C	C
ATOM 3000	N	HIS	C	220	-35.625	51.861	35.223	1.00	34.21	C	N
ATOM 3001	CA	HIS	C	220	-34.260	51.552	34.925	1.00	34.21	C	C
ATOM 3002	C	HIS	C	220	-33.418	52.555	35.637	1.00	34.21	C	C
ATOM 3003	O	HIS	C	220	-33.855	53.671	35.918	1.00	34.21	C	O
ATOM 3004	CB	HIS	C	220	-33.924	51.663	33.428	1.00	34.21	C	C
ATOM 3005	CG	HIS	C	220	-34.705	50.705	32.575	1.00	34.21	C	C
ATOM 3006	ND1	HIS	C	220	-36.000	50.924	32.162	1.00	34.21	C	N
ATOM 3007	CD2	HIS	C	220	-34.348	49.499	32.055	1.00	34.21	C	C
ATOM 3008	CE1	HIS	C	220	-36.361	49.848	31.418	1.00	34.21	C	C
ATOM 3009	NE2	HIS	C	220	-35.391	48.957	31.325	1.00	34.21	C	N
ATOM 3010	N	GLN	C	221	-32.171	52.171	35.955	1.00	31.81	C	N
ATOM 3011	CA	GLN	C	221	-31.313	53.069	36.662	1.00	31.81	C	C
ATOM 3012	C	GLN	C	221	-31.140	54.278	35.806	1.00	31.81	C	C
ATOM 3013	O	GLN	C	221	-30.963	54.176	34.593	1.00	31.81	C	O
ATOM 3014	CB	GLN	C	221	-29.916	52.492	36.935	1.00	31.81	C	C
ATOM 3015	CG	GLN	C	221	-28.992	53.450	37.688	1.00	31.81	C	C
ATOM 3016	CD	GLN	C	221	-27.657	52.745	37.884	1.00	31.81	C	C
ATOM 3017	OE1	GLN	C	221	-27.466	51.620	37.426	1.00	31.81	C	O
ATOM 3018	NE2	GLN	C	221	-26.705	53.423	38.577	1.00	31.81	C	N
ATOM 3019	N	GLY	C	222	-31.194	55.466	36.438	1.00	32.05	C	N
ATOM 3020	CA	GLY	C	222	-31.020	56.692	35.723	1.00	32.05	C	C
ATOM 3021	C	GLY	C	222	-32.354	57.333	35.519	1.00	32.05	C	C
ATOM 3022	O	GLY	C	222	-32.431	58.525	35.227	1.00	32.05	C	O
ATOM 3023	N	ASP	C	223	-33.450	56.569	35.684	1.00	33.04	C	N
ATOM 3024	CA	ASP	C	223	-34.742	57.153	35.474	1.00	33.04	C	C
ATOM 3025	C	ASP	C	223	-35.057	58.060	36.620	1.00	33.04	C	C
ATOM 3026	O	ASP	C	223	-34.410	58.011	37.665	1.00	33.04	C	O
ATOM 3027	CB	ASP	C	223	-35.901	56.139	35.353	1.00	33.04	C	C
ATOM 3028	CG	ASP	C	223	-35.846	55.453	33.995	1.00	33.04	C	C
ATOM 3029	OD1	ASP	C	223	-35.132	55.968	33.095	1.00	33.04	C	O
ATOM 3030	OD2	ASP	C	223	-36.529	54.405	33.840	1.00	33.04	C	O
ATOM 3031	N	ILE	C	224	-36.057	58.947	36.428	1.00	35.91	C	N
ATOM 3032	CA	ILE	C	224	-36.470	59.851	37.459	1.00	35.91	C	C
ATOM 3033	C	ILE	C	224	-37.965	59.872	37.457	1.00	35.91	C	C

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ATOM 3034	O	ILE	C	224	-38.590	59.758	36.405	1.00	35.91	C	O
ATOM 3035	CB	ILE	C	224	-36.046	61.268	37.217	1.00	35.91	C	C
ATOM 3036	CG1	ILE	C	224	-34.516	61.377	37.156	1.00	35.91	C	C
ATOM 3037	CG2	ILE	C	224	-36.686	62.147	38.305	1.00	35.91	C	C
ATOM 3038	CD1	ILE	C	224	-34.032	62.715	36.601	1.00	35.91	C	C
ATOM 3039	N	LEU	C	225	-38.588	60.001	38.644	1.00	39.64	C	N
ATOM 3040	CA	LEU	C	225	-40.014	60.119	38.656	1.00	39.64	C	C
ATOM 3041	C	LEU	C	225	-40.348	61.450	39.245	1.00	39.64	C	C
ATOM 3042	O	LEU	C	225	-39.662	61.929	40.149	1.00	39.64	C	O
ATOM 3043	CB	LEU	C	225	-40.766	58.978	39.369	1.00	39.64	C	C
ATOM 3044	CG	LEU	C	225	-40.685	57.652	38.574	1.00	39.64	C	C
ATOM 3045	CD1	LEU	C	225	-41.414	56.481	39.233	1.00	39.64	C	C
ATOM 3046	CD2	LEU	C	225	-41.211	57.849	37.155	1.00	39.64	C	C
ATOM 3047	N	SER	C	226	-41.392	62.109	38.700	1.00	40.89	C	N
ATOM 3048	CA	SER	C	226	-41.768	63.406	39.185	1.00	40.89	C	C
ATOM 3049	C	SER	C	226	-43.261	63.477	39.211	1.00	40.89	C	C
ATOM 3050	O	SER	C	226	-43.936	62.759	38.474	1.00	40.89	C	O
ATOM 3051	CB	SER	C	226	-41.274	64.563	38.298	1.00	40.89	C	C
ATOM 3052	OG	SER	C	226	-41.684	65.810	38.841	1.00	40.89	C	O
ATOM 3053	N	VAL	C	227	-43.820	64.344	40.083	1.00	43.63	C	N
ATOM 3054	CA	VAL	C	227	-45.247	64.494	40.144	1.00	43.63	C	C
ATOM 3055	C	VAL	C	227	-45.582	65.841	39.570	1.00	43.63	C	C
ATOM 3056	O	VAL	C	227	-45.088	66.871	40.025	1.00	43.63	C	O
ATOM 3057	CB	VAL	C	227	-45.793	64.412	41.536	1.00	43.63	C	C
ATOM 3058	CG1	VAL	C	227	-45.122	65.496	42.391	1.00	43.63	C	C
ATOM 3059	CG2	VAL	C	227	-47.324	64.534	41.463	1.00	43.63	C	C
ATOM 3060	N	ILE	C	228	-46.454	65.863	38.542	1.00	47.24	C	N
ATOM 3061	CA	ILE	C	228	-46.738	67.077	37.829	1.00	47.24	C	C
ATOM 3062	C	ILE	C	228	-48.217	67.344	37.806	1.00	47.24	C	C
ATOM 3063	O	ILE	C	228	-49.019	66.432	37.621	1.00	47.24	C	O
ATOM 3064	CB	ILE	C	228	-46.275	66.955	36.406	1.00	47.24	C	C
ATOM 3065	CG1	ILE	C	228	-44.749	66.776	36.349	1.00	47.24	C	C
ATOM 3066	CG2	ILE	C	228	-46.778	68.163	35.622	1.00	47.24	C	C
ATOM 3067	CD1	ILE	C	228	-43.978	67.961	36.928	1.00	47.24	C	C
ATOM 3068	N	ILE	C	229	-48.618	68.625	37.995	1.00	49.00	C	N
ATOM 3069	CA	ILE	C	229	-50.016	68.966	37.941	1.00	49.00	C	C
ATOM 3070	C	ILE	C	229	-50.227	69.850	36.755	1.00	49.00	C	C
ATOM 3071	O	ILE	C	229	-49.796	71.003	36.755	1.00	49.00	C	O
ATOM 3072	CB	ILE	C	229	-50.496	69.712	39.148	1.00	49.00	C	C
ATOM 3073	CG1	ILE	C	229	-50.351	68.825	40.390	1.00	49.00	C	C
ATOM 3074	CG2	ILE	C	229	-51.937	70.182	38.891	1.00	49.00	C	C
ATOM 3075	CD1	ILE	C	229	-50.559	69.589	41.690	1.00	49.00	C	C
ATOM 3076	N	PRO	C	230	-50.869	69.334	35.733	1.00	51.49	C	N
ATOM 3077	CA	PRO	C	230	-51.087	70.146	34.573	1.00	51.49	C	C
ATOM 3078	C	PRO	C	230	-52.033	71.267	34.833	1.00	51.49	C	C
ATOM 3079	O	PRO	C	230	-53.225	71.121	34.570	1.00	51.49	C	O
ATOM 3080	CB	PRO	C	230	-51.517	69.192	33.462	1.00	51.49	C	C
ATOM 3081	CG	PRO	C	230	-50.833	67.869	33.853	1.00	51.49	C	C
ATOM 3082	CD	PRO	C	230	-50.726	67.929	35.388	1.00	51.49	C	C
ATOM 3083	N	ARG	C	231	-51.517	72.418	35.285	1.00	51.08	C	N
ATOM 3084	CA	ARG	C	231	-52.359	73.553	35.483	1.00	51.08	C	C
ATOM 3085	C	ARG	C	231	-51.487	74.650	35.988	1.00	51.08	C	C
ATOM 3086	O	ARG	C	231	-50.587	74.417	36.793	1.00	51.08	C	O
ATOM 3087	CB	ARG	C	231	-53.487	73.355	36.504	1.00	51.08	C	C
ATOM 3088	CG	ARG	C	231	-54.398	74.581	36.559	1.00	51.08	C	C
ATOM 3089	CD	ARG	C	231	-55.692	74.374	37.339	1.00	51.08	C	C
ATOM 3090	NE	ARG	C	231	-56.503	75.610	37.157	1.00	51.08	C	N
ATOM 3091	CZ	ARG	C	231	-57.289	75.747	36.050	1.00	51.08	C	C
ATOM 3092	NH1	ARG	C	231	-57.331	74.753	35.115	1.00	51.08	C	N
ATOM 3093	NH2	ARG	C	231	-58.033	76.878	35.877	1.00	51.08	C	N
ATOM 3094	N	ALA	C	232	-51.718	75.886	35.511	1.00	49.08	C	N
ATOM 3095	CA	ALA	C	232	-50.907	76.956	36.008	1.00	49.08	C	C
ATOM 3096	C	ALA	C	232	-51.459	77.314	37.347	1.00	49.08	C	C
ATOM 3097	O	ALA	C	232	-52.677	77.403	37.496	1.00	49.08	C	O
ATOM 3098	CB	ALA	C	232	-50.943	78.219	35.132	1.00	49.08	C	C
ATOM 3099	N	ARG	C	233	-50.569	77.560	38.336	1.00	50.24	C	N

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Figure 10-48

ATOM 3100	CA	ARG	C	233	-50.983	77.904	39.668	1.00	50.24	C	C
ATOM 3101	C	ARG	C	233	-52.025	76.920	40.095	1.00	50.24	C	C
ATOM 3102	O	ARG	C	233	-53.213	77.231	40.106	1.00	50.24	C	O
ATOM 3103	CB	ARG	C	233	-51.600	79.307	39.769	1.00	50.24	C	C
ATOM 3104	CG	ARG	C	233	-50.633	80.437	39.413	1.00	50.24	C	C
ATOM 3105	CD	ARG	C	233	-51.263	81.827	39.520	1.00	50.24	C	C
ATOM 3106	NE	ARG	C	233	-50.221	82.824	39.147	1.00	50.24	C	N
ATOM 3107	CZ	ARG	C	233	-50.587	84.096	38.817	1.00	50.24	C	C
ATOM 3108	NH1	ARG	C	233	-51.904	84.456	38.843	1.00	50.24	C	N
ATOM 3109	NH2	ARG	C	233	-49.637	85.007	38.454	1.00	50.24	C	N
ATOM 3110	N	ALA	C	234	-51.597	75.694	40.438	1.00	53.30	C	N
ATOM 3111	CA	ALA	C	234	-52.508	74.627	40.730	1.00	53.30	C	C
ATOM 3112	C	ALA	C	234	-53.418	74.942	41.885	1.00	53.30	C	C
ATOM 3113	O	ALA	C	234	-54.611	74.662	41.788	1.00	53.30	C	O
ATOM 3114	CB	ALA	C	234	-51.798	73.299	41.036	1.00	53.30	C	C
ATOM 3115	N	LYS	C	235	-52.937	75.607	42.960	1.00	58.84	C	N
ATOM 3116	CA	LYS	C	235	-53.756	75.777	44.138	1.00	58.84	C	C
ATOM 3117	C	LYS	C	235	-53.978	74.455	44.818	1.00	58.84	C	C
ATOM 3118	O	LYS	C	235	-55.049	73.854	44.734	1.00	58.84	C	O
ATOM 3119	CB	LYS	C	235	-55.135	76.401	43.858	1.00	58.84	C	C
ATOM 3120	CG	LYS	C	235	-55.097	77.912	43.621	1.00	58.84	C	C
ATOM 3121	CD	LYS	C	235	-54.391	78.322	42.329	1.00	58.84	C	C
ATOM 3122	CE	LYS	C	235	-54.358	79.834	42.104	1.00	58.84	C	C
ATOM 3123	NZ	LYS	C	235	-53.382	80.460	43.023	1.00	58.84	C	N
ATOM 3124	N	LEU	C	236	-52.905	73.965	45.488	1.00	63.52	C	N
ATOM 3125	CA	LEU	C	236	-52.864	72.721	46.221	1.00	63.52	C	C
ATOM 3126	C	LEU	C	236	-52.731	73.017	47.696	1.00	63.52	C	C
ATOM 3127	O	LEU	C	236	-52.804	74.164	48.134	1.00	63.52	C	O
ATOM 3128	CB	LEU	C	236	-51.608	71.876	45.980	1.00	63.52	C	C
ATOM 3129	CG	LEU	C	236	-51.261	71.565	44.525	1.00	63.52	C	C
ATOM 3130	CD1	LEU	C	236	-50.857	72.847	43.784	1.00	63.52	C	C
ATOM 3131	CD2	LEU	C	236	-50.179	70.478	44.467	1.00	63.52	C	C
ATOM 3132	N	ASN	C	237	-52.612	71.935	48.505	1.00	65.59	C	N
ATOM 3133	CA	ASN	C	237	-52.469	71.939	49.946	1.00	65.59	C	C
ATOM 3134	C	ASN	C	237	-51.087	72.253	50.482	1.00	65.59	C	C
ATOM 3135	O	ASN	C	237	-50.932	73.085	51.374	1.00	65.59	C	O
ATOM 3136	CB	ASN	C	237	-52.880	70.579	50.543	1.00	65.59	C	C
ATOM 3137	CG	ASN	C	237	-53.060	70.734	52.046	1.00	65.59	C	C
ATOM 3138	OD1	ASN	C	237	-53.204	69.745	52.765	1.00	65.59	C	O
ATOM 3139	ND2	ASN	C	237	-53.068	72.001	52.539	1.00	65.59	C	N
ATOM 3140	N	LEU	C	238	-50.043	71.568	49.979	1.00	66.15	C	N
ATOM 3141	CA	LEU	C	238	-48.694	71.707	50.471	1.00	66.15	C	C
ATOM 3142	C	LEU	C	238	-48.615	71.269	51.905	1.00	66.15	C	C
ATOM 3143	O	LEU	C	238	-47.610	71.504	52.575	1.00	66.15	C	O
ATOM 3144	CB	LEU	C	238	-48.108	73.119	50.328	1.00	66.15	C	C
ATOM 3145	CG	LEU	C	238	-48.093	73.553	48.855	1.00	66.15	C	C
ATOM 3146	CD1	LEU	C	238	-47.084	74.682	48.593	1.00	66.15	C	C
ATOM 3147	CD2	LEU	C	238	-47.953	72.333	47.935	1.00	66.15	C	C
ATOM 3148	N	SER	C	239	-49.657	70.585	52.415	1.00	64.73	C	N
ATOM 3149	CA	SER	C	239	-49.586	70.112	53.772	1.00	64.73	C	C
ATOM 3150	C	SER	C	239	-48.870	68.799	53.745	1.00	64.73	C	C
ATOM 3151	O	SER	C	239	-49.250	67.865	53.037	1.00	64.73	C	O
ATOM 3152	CB	SER	C	239	-50.959	69.880	54.430	1.00	64.73	C	C
ATOM 3153	OG	SER	C	239	-51.623	71.116	54.646	1.00	64.73	C	O
ATOM 3154	N	PRO	C	240	-47.857	68.722	54.564	1.00	68.26	C	N
ATOM 3155	CA	PRO	C	240	-46.964	67.595	54.602	1.00	68.26	C	C
ATOM 3156	C	PRO	C	240	-47.713	66.314	54.696	1.00	68.26	C	C
ATOM 3157	O	PRO	C	240	-47.244	65.308	54.160	1.00	68.26	C	O
ATOM 3158	CB	PRO	C	240	-46.091	67.811	55.837	1.00	68.26	C	C
ATOM 3159	CG	PRO	C	240	-47.009	68.600	56.784	1.00	68.26	C	C
ATOM 3160	CD	PRO	C	240	-47.878	69.436	55.832	1.00	68.26	C	C
ATOM 3161	N	HIS	C	241	-48.854	66.324	55.403	1.00	72.12	C	N
ATOM 3162	CA	HIS	C	241	-49.648	65.141	55.512	1.00	72.12	C	C
ATOM 3163	C	HIS	C	241	-50.800	65.380	54.602	1.00	72.12	C	C
ATOM 3164	O	HIS	C	241	-51.762	66.039	54.984	1.00	72.12	C	O
ATOM 3165	CB	HIS	C	241	-50.284	64.944	56.901	1.00	72.12	C	C

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Figure 10-49

ATOM 3166	CG	HIS	C	241	-49.303	64.864	58.032	1.00	72.12	C	C
ATOM 3167	ND1	HIS	C	241	-48.796	65.963	58.691	1.00	72.12	C	N
ATOM 3168	CD2	HIS	C	241	-48.746	63.779	58.635	1.00	72.12	C	C
ATOM 3169	CE1	HIS	C	241	-47.964	65.491	59.653	1.00	72.12	C	C
ATOM 3170	NE2	HIS	C	241	-47.901	64.172	59.658	1.00	72.12	C	N
ATOM 3171	N	GLY	C	242	-50.773	64.805	53.394	1.00	75.74	C	N
ATOM 3172	CA	GLY	C	242	-51.855	65.044	52.491	1.00	75.74	C	C
ATOM 3173	C	GLY	C	242	-51.304	65.197	51.112	1.00	75.74	C	C
ATOM 3174	O	GLY	C	242	-51.929	64.735	50.158	1.00	75.74	C	O
ATOM 3175	N	THR	C	243	-50.138	65.845	50.930	1.00	77.20	C	N
ATOM 3176	CA	THR	C	243	-49.661	65.806	49.582	1.00	77.20	C	C
ATOM 3177	C	THR	C	243	-48.250	65.308	49.559	1.00	77.20	C	C
ATOM 3178	O	THR	C	243	-47.300	66.049	49.764	1.00	77.20	C	O
ATOM 3179	CB	THR	C	243	-49.849	67.081	48.805	1.00	77.20	C	C
ATOM 3180	OG1	THR	C	243	-49.577	66.845	47.435	1.00	77.20	C	O
ATOM 3181	CG2	THR	C	243	-48.952	68.191	49.343	1.00	77.20	C	C
ATOM 3182	N	PHE	C	244	-48.067	64.005	49.276	1.00	71.63	C	N
ATOM 3183	CA	PHE	C	244	-46.757	63.419	49.333	1.00	71.63	C	C
ATOM 3184	C	PHE	C	244	-46.542	62.541	48.138	1.00	71.63	C	C
ATOM 3185	O	PHE	C	244	-47.467	62.289	47.369	1.00	71.63	C	O
ATOM 3186	CB	PHE	C	244	-46.581	62.574	50.601	1.00	71.63	C	C
ATOM 3187	CG	PHE	C	244	-47.772	61.680	50.640	1.00	71.63	C	C
ATOM 3188	CD1	PHE	C	244	-47.783	60.471	49.986	1.00	71.63	C	C
ATOM 3189	CD2	PHE	C	244	-48.900	62.073	51.325	1.00	71.63	C	C
ATOM 3190	CE1	PHE	C	244	-48.896	59.665	50.026	1.00	71.63	C	C
ATOM 3191	CE2	PHE	C	244	-50.015	61.272	51.369	1.00	71.63	C	C
ATOM 3192	CZ	PHE	C	244	-50.013	60.059	50.721	1.00	71.63	C	C
ATOM 3193	N	LEU	C	245	-45.283	62.088	47.930	1.00	65.02	C	N
ATOM 3194	CA	LEU	C	245	-44.971	61.252	46.796	1.00	65.02	C	C
ATOM 3195	C	LEU	C	245	-43.963	60.271	47.292	1.00	65.02	C	C
ATOM 3196	O	LEU	C	245	-43.108	60.626	48.104	1.00	65.02	C	O
ATOM 3197	CB	LEU	C	245	-44.196	61.908	45.646	1.00	65.02	C	C
ATOM 3198	CG	LEU	C	245	-44.523	63.375	45.472	1.00	65.02	C	C
ATOM 3199	CD1	LEU	C	245	-46.028	63.650	45.317	1.00	65.02	C	C
ATOM 3200	CD2	LEU	C	245	-43.836	64.089	46.628	1.00	65.02	C	C
ATOM 3201	N	GLY	C	246	-43.998	59.014	46.801	1.00	55.28	C	N
ATOM 3202	CA	GLY	C	246	-43.001	58.118	47.313	1.00	55.28	C	C
ATOM 3203	C	GLY	C	246	-42.865	56.894	46.460	1.00	55.28	C	C
ATOM 3204	O	GLY	C	246	-43.738	56.577	45.651	1.00	55.28	C	O
ATOM 3205	N	PHE	C	247	-41.728	56.176	46.645	1.00	47.05	C	N
ATOM 3206	CA	PHE	C	247	-41.454	54.947	45.950	1.00	47.05	C	C
ATOM 3207	C	PHE	C	247	-41.018	53.937	46.952	1.00	47.05	C	C
ATOM 3208	O	PHE	C	247	-40.263	54.246	47.874	1.00	47.05	C	O
ATOM 3209	CB	PHE	C	247	-40.182	54.855	45.098	1.00	47.05	C	C
ATOM 3210	CG	PHE	C	247	-40.210	55.763	43.953	1.00	47.05	C	C
ATOM 3211	CD1	PHE	C	247	-41.348	55.852	43.206	1.00	47.05	C	C
ATOM 3212	CD2	PHE	C	247	-39.069	56.438	43.590	1.00	47.05	C	C
ATOM 3213	CE1	PHE	C	247	-41.357	56.687	42.132	1.00	47.05	C	C
ATOM 3214	CE2	PHE	C	247	-39.086	57.270	42.502	1.00	47.05	C	C
ATOM 3215	CZ	PHE	C	247	-40.239	57.398	41.781	1.00	47.05	C	C
ATOM 3216	N	VAL	C	248	-41.443	52.681	46.738	1.00	40.65	C	N
ATOM 3217	CA	VAL	C	248	-40.957	51.600	47.531	1.00	40.65	C	C
ATOM 3218	C	VAL	C	248	-40.425	50.617	46.548	1.00	40.65	C	C
ATOM 3219	O	VAL	C	248	-41.052	50.347	45.524	1.00	40.65	C	O
ATOM 3220	CB	VAL	C	248	-42.008	50.907	48.343	1.00	40.65	C	C
ATOM 3221	CG1	VAL	C	248	-43.095	50.394	47.390	1.00	40.65	C	C
ATOM 3222	CG2	VAL	C	248	-41.338	49.782	49.150	1.00	40.65	C	C
ATOM 3223	N	LYS	C	249	-39.234	50.063	46.835	1.00	34.46	C	N
ATOM 3224	CA	LYS	C	249	-38.645	49.135	45.921	1.00	34.46	C	C
ATOM 3225	C	LYS	C	249	-39.117	47.782	46.325	1.00	34.46	C	C
ATOM 3226	O	LYS	C	249	-38.968	47.376	47.477	1.00	34.46	C	O
ATOM 3227	CB	LYS	C	249	-37.107	49.182	45.972	1.00	34.46	C	C
ATOM 3228	CG	LYS	C	249	-36.383	48.372	44.897	1.00	34.46	C	C
ATOM 3229	CD	LYS	C	249	-34.929	48.820	44.716	1.00	34.46	C	C
ATOM 3230	CE	LYS	C	249	-34.314	49.418	45.985	1.00	34.46	C	C
ATOM 3231	NZ	LYS	C	249	-32.933	49.884	45.732	1.00	34.46	C	N

Figure 10-50

ATOM	3232	N	LEU	C	250	-39.724	47.048	45.374	1.00	29.77	C	N
ATOM	3233	CA	LEU	C	250	-40.245	45.753	45.686	1.00	29.77	C	C
ATOM	3234	C	LEU	C	250	-39.078	44.787	45.840	1.00	29.77	C	C
ATOM	3235	1OCT	LEU	C	250	-38.331	44.584	44.847	1.00	29.77	C	O
ATOM	3236	CB	LEU	C	250	-41.184	45.200	44.602	1.00	29.77	C	C
ATOM	3237	CG	LEU	C	250	-42.477	46.021	44.451	1.00	29.77	C	C
ATOM	3238	CD1	LEU	C	250	-43.389	45.439	43.362	1.00	29.77	C	C
ATOM	3239	CD2	LEU	C	250	-43.196	46.184	45.800	1.00	29.77	C	C
ATOM	3240	2OCT	LEU	C	250	-38.927	44.236	46.964	1.00	29.77	C	O
END												

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SEQUENCE LISTING

<110> Biogen, Inc.
Karpusas, Michael

<120> CRYSTAL STRUCTURE OF BAFF AND USE THEREOF FOR DRUG DESIGN

<130> A135 - PCT

<150> 60/317,524

<151> 2001-09-06

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Leu Val Lys Glu Thr Gly Tyr Phe Phe Ile Tyr Gly Gln Val Leu Tyr
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His Val Phe Gly Asp Glu Leu Ser Leu Val Thr Leu Phe Arg Cys Ile
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Gln Asn Met Pro Glu Thr Leu Pro Asn Asn Ser Cys Tyr Ser Ala Gly
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Ile Ala Lys Leu Glu Glu Gly Asp Glu Leu Gln Leu Ala Ile Pro Arg
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Leu Gln Gly Thr Gly Gly Pro Ser Gln Asn Gly Glu Gly Tyr Pro Trp
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Gln Ser Leu Pro Glu Gln Ser Ser Asp Ala Leu Glu Ala Trp Glu Asn
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Gly Glu Arg Ser Arg Lys Arg Arg Ala Val Leu Thr Gln Lys Gln Lys
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Lys Gln His Ser Val Leu His Leu Val Pro Ile Asn Ala Thr Ser Lys
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Gly Arg Gly Leu Gln Ala Gln Gly Tyr Gly Val Arg Ile Gln Asp Ala
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Gly Val Tyr Leu Leu Tyr Ser Gln Val Leu Phe Gln Asp Val Thr Phe
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Thr Met Gly Gln Val Val Ser Arg Glu Gly Gln Gly Arg Gln Glu Thr
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5

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/28579

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C07K 14/00

US CL : 530/350

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 702/27, 211/41.12, 435/7.1, 514/1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	ECK et al. The Structure of Tumor Necrosis Factor-alpha at 2.6 Angstroms Resolution. The Journal of Biological Chemistry, 15 October 1989, Vol. 264, Number 29, pages 17595-17605, especially Abstract and Results and Discussion.	1, 4, 9-12
Y	BANNER et al. Crystal Structure of the Soluble Human 55kd TNF Receptor-Human TNFbeta Complex: Implications for TNF Receptor Activation. Cell. 07 May 1993, Vol. 73, pages 431-445, especially Results and Experimental Procedures.	1, 4, 9-12
Y	CHA et al. High Resolution Crystal Structure of a Human Tumor Necrosis Factor-alpha Mutant with Low Systemic Toxicity. The Journal of Biological Chemistry. January 1998, Volume 273, Number 4, pages 2153-2160, especially abstract.	1, 9
Y	ECK et al. The Structure of Human Lymphotoxin (Tumor Necrosis Factor-beta) at 1.9-Angstroms Resolution. The Journal of Biological Chemistry. February 1992, Volume 267, Number 4, pages 2119-2122, especially abstract.	1, 9
Y	US 5,939,528 A (CLARDY et al.) 17 August 1999 (17.08.1999), especially Summary of the Invention.	1-12, 24, 28, 71, 84, 88-89

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

16 December 2002 (16.12.2002)

Date of mailing of the international search report

09 JAN 2003

Name and mailing address of the ISA/US

Commissioner of Patents and Trademarks

Box PCT

Washington, D.C. 20231

Facsimile No. (703)305-3230

Authorized officer

Valerie Bell-Harris for Carolyn Smith

Telephone No. 703-308-0196

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/28579

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claim Nos.: 72-83
because they relate to subject matter not required to be searched by this Authority, namely:
Please See Continuation Sheet
2. ☐ Claim Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to
such an extent that no meaningful international search can be carried out, specifically:
3. ☒ Claim Nos.: 56 and 70
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule
6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all
searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite
payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search
report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report
is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐
☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/28579

Box I Observations where certain claims were found unsearchable 1. because they relate to subject matter not required to be searched by this Authority, namely:

These claims related to subject matter not required to be searched by this Authority, namely, "methods for treatment of the human or animal body by surgery or therapy, as well as diagnostic methods," as set forth in PCT Rule 39, MPEP Section 1843.

Continuation of B. FIELDS SEARCHED Item 3:

EMBASE, MEDLINE, BIOSIS, SCISEARCH, WEST, and PUBMED searching terms: crystalline, BAFF, polypeptide, trimer, 3-D, structural coordinates, x-ray diffraction, Fourier transform, APRIL, synthesize, pharmaceutical composition, tumor necrosis factor